



UGANDA PROTECTORATE

ANNUAL REPORT
OF THE
DEPARTMENT OF
AGRICULTURE

FOR THE

Year ended 31st December, 1947

PART I—ADMINISTRATIVE

Published by Command of His Excellency the Governor

ENTEBBE

PRINTED BY THE GOVERNMENT PRINTER, UGANDA

1949

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PART I.—ADMINISTRATIVE

Weather conditions were abnormal in that the autumn rains of 1946 continued well into 1947 in all districts and in most areas rain was continuous until the end of May. The lack of hot dry weather which normally occurs in January and February adversely affected the ripening of the 1946/47 cotton crop to a serious extent and interfered considerably with marketing. In consequence, both yields and grade were reduced and in addition, the quality of cotton seed stored under these damp conditions was affected to such an extent that it was necessary to make large replacements of seed stocks. This abnormally wet weather was also responsible for a marked reduction of the finger millet crop in the main producing areas. This crop is normally sown dry and growers delayed planting in the hope of a break in the rains. This did not occur and in consequence much of the crop was planted late and under excessively wet conditions with the result that germination was unsatisfactory and weed growth tended to get out of hand. As against these drawbacks, the unusually wet weather favoured the production of good crops of maize and groundnuts and in banana growing areas the usual dry season check was not experienced, production being maintained at a high level.

Rainfall during the second half of the year was inadequate and badly distributed, there being frequent dry spells which checked the growth of early planted cotton and hindered planting to a considerable extent. In consequence, the bulk of the cotton crop was late planted and, as the dry season set in unusually early, production from these plantings was low. Food production from autumn plantings was interfered with, as following on a late planted cotton crop, food crop planting was late and erratic rainfall and the early onset of the dry season made for poor stands and low yields. At the end of the year, many parts of the country were faced with the prospect of food scarcity during the first six months of 1948, as in consequence of the previous season's poor millet crop, grain stocks were low and only in areas where bananas are the main food crop could the future food position be viewed with any degree of equanimity.

While the general agricultural policy remained unchanged, the year 1947 saw the inception of a number of projects which in the course of time will have a marked influence on agricultural methods, on crop production and on the marketing of agricultural products. The first and most important of these was the publication of a 10-year development plan for Uganda by E. B. Worthington, which was approved by the Legislature in July. The plan rightly emphasises the need for an intensification and expansion of the productive services and due provision is made for

agricultural development. During the year, work on the projects contained in the plan was of a preliminary nature only and, as in every other branch of activity, progress has been seriously hampered by lack of staff, shortage of materials and difficulties in regard to the provision of adequate housing.

A great deal of consideration was given during the year to the possible lines on which agricultural development in Uganda in the future could and should take place. During the war years, the machinery of Government and in particular that of the Department was geared to deal with such matters as production, marketing and wartime controls and in consequence but little serious attention could be given to the fundamental problem, namely the better, more economic and more productive use of the land. It is a problem which has wide ramifications and any developments will affect all aspects of African society and indeed will have repercussions on accepted systems of land tenure. For this reason, if for no other, it is a problem which cannot be tackled by one Department alone, but which must have the support and understanding of all concerned with African development.

To date agricultural development in Uganda has taken the form of superimposing on traditional methods a system of cash crop economy in varying degrees and the modification of the accepted system of land use to make this possible. This policy in the initial stages of the development of the country was no doubt a wise one, but it has obvious limitations and can lead to soil ruination if carried to extremes and if coupled with comparatively large increases in both human and stock populations. The problem is not so much to obtain large increases in acreages, except in new development areas, but to devise a system which will cope with the ever increasing population pressure, which will result in increased production per unit of area or per unit of stock and which at the same time will maintain and improve soil fertility. The agricultural economy of the Protectorate has been built up on a system of peasant farmers working on their own holdings with traditional primitive implements and, generally speaking, with each family as an individual unit. Such a system has obvious limitations in terms of the total wealth production of the community but, under Uganda conditions, no other than a peasant farming basis appears practicable. To visualise large scale farms employing paid labour might result in greater total wealth but would give rise to a large landless class of Africans, who would, especially, in the absence of large scale industrial enterprise, be vulnerable to every economic stress.

Agreement with this principle does not, however, necessitate acceptance of continued reliance on the hoe as the implement of production; to do so would mean that the lot of the peasant cultivator could never be improved nor could the farming system be raised to the degree necessary for the country to carry the high standards and extensive social services which modern thought and practice demand. Farming like any other undertaking is a business which needs adequate capital for its proper development and one of the main problems is how to provide

this capital for a community which consists and will continue to consist of large numbers of individual units. One answer would be the aggregation of groups of families which, while essentially retaining their individual entities and personal liberties, agree to join together in some form of mutual help and co-operation. Under this system, each family would hold its land in accordance with accepted custom, but there would be a common pool of agricultural machinery and of transport to which people would subscribe in proportion to the services taken and each farmer would receive the proceeds from crop and stock sales through a co-operative marketing system.

No individual peasant farmer can afford the necessary capital to introduce on his holding the implements or the transport facilities required nor could he employ such equipment to anything like full capacity unless he hired it out to his neighbours. Nor can the individual afford any security against loans which might be made for this purpose. Commercial practice is to demand a substantial first instalment for an implement and in the event of default in repayments the machine is seized. Apart from improvidence, an individual is more vulnerable to misfortune than a group; further a group should be able to obtain fiduciary credit provided an adequate measure of control is exercised over its activities.

Development on these lines would necessitate a reorientation of accepted systems of land use in that the blocks of land will have to be farmed as a whole and not, as at present, on a system of scattered plots and fragmented holdings. It is here that the main difficulty will arise in getting the peasant farmer as an individual and through him the community to see and understand the need for planned land use for the benefit of the community and ultimately for his own personal gain.

With the above in mind, a beginning was made during 1947 and arrangements were completed for three departmental tractor units to work in selected areas during 1948. The work is as yet of an experimental nature only; it is designed to obtain information as to the economics of the application of modern methods to primitive farming conditions and to obtain the reaction of the people concerned to a better system of land layout and utilisation.

For this latter purpose, a system of contour strip cropping is insisted upon; a graduated scale of charges for the use of the equipment has been drawn up (the larger the area the smaller the charge) and only fields of a minimum acreage are dealt with. It can be said that the experiment shows promise, numerous applications for the hire of tractors are being received and a considerable expansion of the work is visualised. It has been mentioned that this extension work is at present being undertaken by direct departmental action and contact with the farmers concerned. While this is necessary in the initial stages, any large scale developments of more general application would not be practicable on these lines. Limitations of staff would preclude it and taking the long term view, the controlling authority will have to be the Native Administrations

or bodies working under their control who will have to be educated to a realisation of the aims and objects of this form of development.

In the foreword to last year's report, attention was drawn to the increasing competition, in certain areas, from alternative cash crops which the cotton crop now has to face and the possibility that cotton would not regain its pre-war position of pre-eminence. In view of the importance of this crop to the economy of the Protectorate, it is essential that cotton production should be maintained at a high level despite the changed circumstances under which the crop is now being grown. Ways and means of increasing production received careful attention during the year and, while it is unlikely that total acreage can be increased to any marked extent, it is considered that production can be considerably augmented by the use of more efficient cultural methods. Earlier planting has been placed in the forefront of these, not only on account of the direct improvement in yield per acre which early planting will give but also because the earlier cotton planting is started the greater is the tendency to increase the acreage under cotton. With this is associated early planting of food crops and early preparation of land for cotton and in general the aim is to advance the whole agricultural calendar so that the maximum advantage can be taken of available rainfall. This is by no means a new conception but merely an elementary principle of good farming which, in the numerous pre-occupations of war-time and post-war conditions, has tended to be neglected.

The problem of the reorganisation of the Cotton Industry, in abeyance as a result of the war since the 1938 Cotton Commission, was further examined during the year. Sir Charles Lockhart, at that time Economic Adviser to the Governors' Conference, prepared, in consultation with the industry, two reports containing a number of recommendations, the main being a revision of the price fixing formula on lines which would give security to the industry during the next ten years and which would give a stimulus to the industry to effect reorganisation within itself. This together with other aspects of reorganisation including the machinery for the sale of lint and the position of ginning pools will be further considered by a Commission to be appointed in 1948.

The maintenance of supplies of cotton seed true to type and variety has received attention; it was considered that existing arrangements for seed multiplication, particularly in areas west of the Nile, were insufficiently secure. New segregated areas have been selected and an amended scheme of seed multiplication will be started in 1948, which, it is hoped will give better results and will ensure a continuous supply of pure seed to all areas.

The 1946-47 cotton crop was disappointingly small, totalling 231,678 bales of a value to the growers of £2,955,582. Disposal, as in previous years was arranged through the Cotton Exporters' Group principally by bulk sales to the United Kingdom and to the Government of India, with a small quantity reserved for sale by tender on a free export market. 21,965 bales were shipped to the United Kingdom and 177,366 bales were shipped to India.

The following table gives details of cotton acreages and production together with average prices paid to the growers in each season from 1940 to 1947:—

Cotton Production—Uganda: 1939–1947

Season	Estimated Acreage	Tons of Seed Cotton	Average Yield per Acre. Lbs.	Average Price Shs. per 100 lbs.
1939/40 ..	1,267,736	179,045	310	11/14
1940/41 ..	1,284,206	220,059	384	8/82
1941/42 ..	1,287,256	14,097	245	7/68
1942/43 ..	874,776	67,416	173	12/56
1943/44 ..	1,233,801	112,011	203	13/18
1944/45 ..	1,072,493	160,830	337	14/83
1945/46 ..	1,145,568	135,525	265	16/40
1946/47 ..	1,253,257	138,457	204	18/45

The 1946–47 coffee crop was a comparatively small one as was to be expected after the previous season's large crop. The crop for the year (excluding Bugishu) amounted to 17,238 tons. The total value of this crop to the growers was £652,390. The Bugishu crop totalled 3,058 tons valued at £107,215. The following table gives details of native coffee production for the calendar years 1940 to 1947:—

Native Coffee Production: 1940–1947

(NOT INCLUDING BUGISHU ARABICA)

Year	1940	1941	1942	1943	1944	1945	1946	1947
Cured Coffee Tons	15,227	17,747	16,099	17,717	11,856	16,083	24,449	17,238

A contract covering a period of five years from July, 1947 was concluded with the Ministry of Food providing for the sale to the Ministry of 4,750 tons per year of native Robusta (including a small quantity of native Arabica) at an agreed price. This contract will exert a stabilising influence on prices payable to growers during the five year period and will provide a measure of insurance against market fluctuations. The balance of the native coffee crop is sold by the Control through the Mombasa Coffee Auctions.

In the case of non-native coffee, a contract with the Ministry of Food was entered into under which the Ministry will purchase for a period of five years all non-native coffee of agreed grades. To give effect to this contract, a Non-Native Coffee Marketing Board was established by legislation which controls the marketing of this type of coffee.

Production of Bugishu Arabica coffee in the 1946/47 season totalled 3,058 tons of parchment which was 241 tons more than the crop of the previous season. In addition, 51 tons of "lights" and 61 tons of "buni" were marketed and the total sum paid to growers was £107,215. A considerable increase in crop was anticipated for the 1947/48 season and prior to the failure of the autumn rains an estimate of 3,500 tons was made. Dry conditions in the autumn, however, resulted in much loss of crop and this estimate was reduced to 2,500 tons and by the end of

year 2,232 tons of parchment had been marketed. The check to the crop through unfavourable weather induced a high rate of "buni" formation and sales of this grade reached 250 tons. The Growers' Co-operative Societies referred to in last year's report were responsible for some improvement in the standard of parchment prepared by their members.

Uganda's participation in the International Tea Restriction Scheme came to an end during the year and, while extensions of acreage were still controlled on a Protectorate basis in the interests of the rational development of the industry, there was an increased interest in the crop and licences to plant 6,850 acres were issued. This, with licensed acreage as at the end of December, 1946, brings the total licensed acreage to 11,374 acres. The conditions of the licences issued are so framed as to ensure the orderly expansion of tea planting by providing for the licensed acreage to be planted within a specified time and also that manufacturing facilities are adequate for that acreage.

The tea seed position remained unsatisfactory throughout the year; supplies are no longer available from countries which participate in the International Restriction Scheme and, while established estates had in general adequate supplies of seed from their own gardens, new planters experienced difficulty in obtaining their requirements.

The policy of developing high prices for weight crops in areas remote from railhead has been steadily pursued and the nicotine tobacco and flax industries in Kigezi District continued to expand. Of the former, a total of 825,000 pounds of leaf was produced, an increase of 58 per cent. over the previous year. Flax production amounted to 97 tons of fibre and 45 tons of tow.

The small flue-cured tobacco industry in the West Nile District was maintained with a production of 28,000 pounds of cured leaf. The cultivation of flue-cured tobacco was extended on an experimental basis to the Acholi District, where promising results were obtained and considerable expansion is visualised for 1948. Production of fire-cured tobacco in Bunyoro District amounted to 4,700 acres giving a crop of 1,600,000 pounds, which was considerably less than requirements of local manufacturers.

The shortage of oilseeds has justified trials of sunflower and linseed being started in the Western Province and these have given promising results. Of other oilseeds, the total acreage planted with groundnuts was estimated at 330,000 of which 212,000 acres were in the Eastern Province. As is usual the bulk of the crop was consumed locally, but a surplus of 9,146 tons was marketed, again mainly in the Eastern Province, of which 2,052 tons were exported. Once again the Protectorate was asked to contribute a crop of maize to the East African Cereals' Pool; 117,000 acres were planted in Buganda and 77,000 acres in the Busoga and Mbale Districts of the Eastern Province. A crop of 29,236 tons was marketed, of which 16,648 tons were exported to the Pool. There is no doubt that maize as a crop has come to stay and moreover internal demands of maize flour for feeding employed labour are steadily increasing; thus

internal demands supplied from authorised channels are now assessed at over 100,000 bags per year. The development of maize cultivation in relation to the production of other established food and economic crops will need careful control for it is essential to avoid, in any area, an undue proportion of the total arable acreage being planted with this crop.

This leads to the problem of the provision of a bulk storage installation for grain not only as an insurance against famine but also to supply internal demands throughout the year from employers of labour without, as at present, having to draw on the East African Cereals' Pool. While the Protectorate is normally self supporting in foodstuffs required for African consumption, and internal local schemes for grain storage are usually adequate to meet seasonal scarcity, severe shortages can at present only be countered by the importation of grain from the Cereals' Pool. This is not only unsatisfactory but uneconomic and it is obviously desirable for the Protectorate to be self supporting in this respect. Towards the end of the year, preliminary plans were prepared for the establishment of a central grain conditioning and storage plant to be sited at Jinja and it is hoped that the order for the plant will be placed in 1948.

By the end of 1946, fifteen oil mills were in operation in the Protectorate crushing cotton seed, groundnuts and sesame for the production of edible oil and cattle cake. With the removal of vegetable oils from the Control of Industries Order, increased interest was taken in oil milling and during 1947 a further thirteen mills were established. Allocation of available oilseeds to individual mills in the light of oil and cake requirements in East Africa presented many difficult problems to the local Control. During 1947, a total of 86,000 tons of cotton seed were produced, of which 33,000 tons were used for planting, 5,600 tons were exported to Kenya and 9,700 tons were shipped to the order of the Ministry of Food. The balance of 38,000 tons was crushed by local millers, 23,800 gallons of oil were consumed locally and 655,000 gallons exported to Kenya. 12,500 tons of cottonseed cake were supplied to the Kenya Stockfeed Control.

The world shortage of jute products has made it essential to investigate the possibilities of developing alternative fibre crops and during the year investigations were started on the utilisation of fibre plants indigenous to Uganda. The most promising of these are *Urena lobata* and *Triumfetta* spp., both of which are common in many areas of Uganda and which produce a good quality fibre suitable for the manufacture of bags and wrappings. While the cultivation of either of these plants presents little difficulty, the organisation of retting and the manufacture of fibre on an economic scale is a problem which will not be easy of solution on an African production basis.

Turning to Non-native crop production, there was an increase in tea production 3,865,343, lbs. being produced as against 2,656,640 lbs. in the previous year. This represents a value of approximately £386,534 and a revenue of £28,990 derived from excise duty. With the anticipated

increase in acreage of this crop and future potential production, tea will play an increasingly important part in the economy of the country in respect of both its direct and indirect revenue producing capacity.

Owing to favourable prices there was some increase of interest in non-native coffee production principally Robusta, and reclamation of abandoned coffee was undertaken. The total acreage registered under the Non-Native Coffee Marketing Ordinance was 17,591 acres and while actual figures are not available production was estimated at 4,900 tons.

Production of sugar on the two sugar estates was maintained, a total of 56,916 tons being produced of which 19,230 tons surplus to Uganda needs were exported. Sisal production during the year was reduced and only 850 tons were exported as against 1,055 tons in 1946.

As regards minor non-native crops, pyrethrum production amounted to 61 tons and rubber exports in consequence of the heavy demands made on the plantations during the war years and less favourable prices, dropped to 188 tons. Papain and chillies were also produced in small quantities.

Mention has been made in previous reports to the Kigezi resettlement scheme; a short account of which will be found in the report of the Provincial Agricultural Officer, Western Province. Progress has been satisfactory and by the end of 1947 some 5,500 people had settled in the new area.

Agricultural education and propaganda will in the future play an important part in inculcating an appreciation of the value of correct agricultural practices and the necessity of maintaining soil fertility, and when normal agricultural education facilities are resumed this aspect will be stressed. During 1947, all agricultural training centres were occupied with the training of ex-soldiers. This has now been completed and in 1948 these centres will revert to their normal use and an extensive programme of training of chiefs, farmers, school-masters and agricultural instructors will be resumed. In the field of agricultural propaganda, a steady flow of articles, of a simple nature, has been maintained to the vernacular press and a comprehensive text book for the use of schools and others entitled "The Uganda Farmer" has been compiled and is now in the hands of the publishers. In addition to his duties on agricultural propaganda, the officer then in charge of these activities carried out valuable liaison work between the Department and that of Public Relations and Social Welfare. Field officers also co-operated with the demonstration teams of that Department which included agricultural demonstrations in their programmes. It is unfortunate that the officer responsible for these educational and propaganda activities has now resigned and another officer, whose duties included the organisation of agricultural education in schools, has been transferred from Uganda. The staff position does not permit of their replacement and in consequence all development in this branch of the Department's activities has come to a standstill except in so far as it can be maintained by the field staff in conjunction with their normal duties.

Fertiliser trials with phosphatic and nitrogenous manures continued during the year and, in conjunction with the new East African Agricultural and Forestry Research Organisation, plans have been made to extend the scope of these trials over a wide area and under conditions typical of African farming.

The staff position during the year showed no improvement, two new Agricultural Officers were appointed towards the end of the year, but will not take up their appointments until early 1948. One Botanist on first appointment arrived in the Protectorate in November and a European Agricultural Assistant was appointed in March. Against this, the Department lost the services of three experienced officers by resignation or on transfer and throughout the year there remained a high proportion of vacant posts.

The thanks of the Department are due to the Director of Supplies, to the Deputy Controllers of agricultural produce and those other unofficials who have at all times given generously of their advice and experience. I wish also to express my appreciation of the hard work and loyal co-operation of all members of the Department throughout the year.

ENTEBEE,

27TH JULY, 1948.

A. B. KILLICK,
Director of Agriculture.

ANNUAL REPORT—EASTERN PROVINCE

PART I.—ADMINISTRATIVE

Introduction

The weather has been the dominating factor of the Agricultural year. The absence of a normal "dry season"—January and February were exceptionally wet—was the root cause of all the subsequent difficulties encountered. Growers, particularly those in the grain eating areas could not make up their minds when to plant their staple food crop, finger millet. This crop is usually sown "dry" principally on land following cotton, but the cotton plants continued to make vegetative growth from January to March, making picking an extremely difficult undertaking, and it was not until March that growers finally decided that the "dry season" had failed, and the planting of finger millet proceeded in a generally unfavourable seed bed and germination was therefore frequently poor. The result of this delay meant the setting back of the Agricultural Calendar by anything up to two months. Furthermore in the drier areas, particularly in Teso where the sowing of finger millet took place earlier, the young crop was attacked by grass hoppers in the early stages, necessitating the resowing of plots two and frequently three times and planting continued well into May which is generally considered far too late to plant this crop. Excessive rains during this period (at two centres in Teso over twenty inches were recorded in April) made the weeding of the grain crop laborious. Meanwhile owing to the favourable prices for Oilseeds all growers were keen to grow at least an average acreage of groundnuts and in certain areas an increased acreage was sown; in addition a slightly above average acreage of maize was planted in Busoga and Mbale Districts. There was therefore considerable and increased activity during a foreshortened planting season with the result that it was not possible to get all activities done in the limited time available and growers, possibly remembering the wet Autumn of 1946, thought they could afford to delay the opening up of land and the planting of the cotton crop. The result was that cotton planting was delayed even longer than usual, the bulk of the crop even in the drier areas of Teso was not planted until the end of July and in Busoga until August. Unfortunately a dry period occurred in the second week of June and lasted until mid July so that had other things been equal it was not possible to plant any great acreage of cotton then. Worse was however to follow. The rains during August and September were not well distributed and there were frequent dry periods which checked the growth of cotton, particularly the later plantings. From that period onwards until the end of the year, although scattered showers did occur, there was no further effective rainfall and temperatures were high. This resulted in an almost complete failure of the late planted cotton and prevented the planting of an increased acreage of food crops, a serious matter particularly in those areas where the grain crop had given such low yields.

Brief reference has already been made to heavy rains during the period March to May which coincided with the planting of groundnuts and maize. It was felt that there would have been an adverse effect on the yield of these crops and although this was certainly the case with maize, groundnuts especially in Busoga, yielded reasonably well and a record crop was marketed. The maize crop was however most disappointing, due to excessive rains during the growing period and although it was hoped to make both Mbale and Busoga Districts self supporting in this commodity as in the previous year, this was not possible and the deficit had to be made good from outside these districts.

Although the cultivation of rice in swamps is no longer popular in Busoga, due to the increased amount of labour which this crop entails as compared with maize for instance, it has gained in popularity in those parts of Mbale and Teso where maize is not grown to any extent. The very heavy spring rains however caused the swamps to rise to an unusually high level and resulted in a large number of plots becoming "drowned".

Food Production

As mentioned above the vagaries of the weather had a most important influence on the production of food crops during the year. The staple food crop, finger millet, was planted late and as the seed bed was by no means ideal, germination was frequently not good; this was particularly so in Busoga. Moreover throughout Teso the crop was attacked by grass hoppers in the early stages necessitating the resowing of the majority of plots twice and frequently three times. Heavy rains during April and May made weeding difficult and laborious but by the end of May acreage under finger millet was not far short of 600,000 acres which is about average, but yields in Teso in particular were 50 per cent. less than usual: an average crop was harvested in Mbale but the Busoga crop was only about three quarters of normal.

By the end of June an above average acreage of cassava (86,000 acres) and Sweet Potatoes (91,000 acres) had been planted and growth everywhere was good, although planting of these crops was held up in Teso on account of dry weather in June and in Busoga the cassava acreage was only approximately half normal due to growers concentrating their activities on other crops, mainly maize and groundnuts.

Planting of root crops continued satisfactorily for the next three months, although naturally at this time of the year cotton planting and cultivation takes preference over that of food crop production, and it was intended to concentrate on the planting of food crops once cotton planting was finished. Unfortunately the failure of the autumn rains prevented full scale operations from taking place but except in Busoga an average acreage of root crops was planted although naturally growth was poor.

In Bugishu and South Busoga where bananas form an important article of diet, the year was generally favourable for growth and good yields were obtained. The care of these gardens, especially as regards weeding, thinning of stems and mulching, however, leaves much to be

desired and although some progress in cultivation can be recorded far too many growers tend to neglect these operations and badly cultivated gardens were showing the effects of the lack of normal rains by the end of the year, and production had declined accordingly.

When it became apparent in October that the autumn rains were likely to fail steps were taken to conserve existing supplies of all food stuffs. These steps consisted mainly in (a) preventing the purchase and export of all food stuffs from outside the Districts in which they were grown and (b) surplus Cassava and Sweet Potatoes which could not be stored in the ground without deterioration, were dug up, sliced, dried and stored for future use. Growers responded well to the latter direction and weather conditions being favourable for this operation, a useful bulk of food was stored away for use at a later date. In addition to these precautions growers were encouraged to plant Sweet Potatoes on lake shore and swamp fringe land where the soil is moist.

By the end of the year the food position was satisfactory in that growers had plenty of food available for their immediate use. In view, however, of the generally unsatisfactory position regarding stocks of finger millet in growers hands, it is felt that there is a lean period as regards food supplies from next April until the new grain crop is harvested, the length of this period depending on when the 1948 Spring rains begin. Should they be unduly delayed *i.e.* until March or April, food will be very short, resulting in a lower output per cultivator, during the period May-July.

Economic Crops

1. COTTON.

The 1946/47 Crop.—Marketing began in all Zones of the Province and also in the adjoining South Lango Zone and in Kenya in the areas adjoining the Uganda Border on the 27th January. This is rather later than usual due to the late planting of the crop and to the fact that the wet weather at the end of 1946 delayed ripening. The continuation of the rains during the "dry" season made marketing difficult particularly in the southern half of the Province and it was feared that the grade of cotton would be adversely affected. This was so to a certain degree but by intensive propaganda and much touring it was possible to maintain a satisfactory grade throughout the buying season, which was extended except in the case of the Teso Zones to ten weeks to allow the crop to mature. These unfavourable conditions were responsible for a lowering of yields and once again the crop in the North of Teso averaged well under 100 lbs. per acre and the average return per tax-payer from the sale of cotton throughout Teso was only Shs. 50/21. For details of acreage, production and yields see Appendix I.

The 1947/48 Crop.—The abnormal conditions early in the year resulted in delay in both the preparation of land, an important factor as regards yields and in the actual planting of the crop so that although a fair acreage was planted in May in Teso, the greater part of the crop was not got in until after mid July (there was a dry spell from mid June

to mid July which prevented planting operations) and in Busoga and Mbale Districts the bulk of the crop was late July–August planted. To counter these adverse conditions, stress was laid on the necessity for early thinning, clean weeding and increased inter-row cultivation to give the plants every chance and these instructions were generally well carried out.

By the time planting operations ceased, the acreage in Busoga and in all the Teso Zones was down on the previous season but not very greatly less than the average for the last six seasons; the North and South Central Zones were not appreciably less than in the previous year.

The crop made fair growth and disease and pests, particularly *Lygus*, being less than normal, early plantings were in a high state of productivity and it was hoped that a crop, at least up to average would be forthcoming, but the absence of the normal autumn rains resulted in the failure, particularly in the drier areas, of late plantings and prospects declined rapidly, although the early planted crop yielded extremely well. By the end of the year the anticipated crop was less than in the previous season. Marketing began in Usuku early in November and by the end of the year purchases of seed cotton amounted to 1,256 tons and little remained to be bought.

Cotton Seed Movements

There was no change in varieties in Busoga and North and South Central Zones, each area supplying its own seed. The abnormally wet weather at marketing time, however, caused some of the seed reserved for planting to heat in storage at ginneries and although viability was at first satisfactory, seed issued in June, particularly in Mbale District (variety B.P. 52) gave a very low germination. Suitable seed was therefore insufficient for planting requirements and 87 tons of N. 17 seed had to be obtained from Busoga and Teso Districts to make up the deficiency. Small local seed movements were necessary in Busoga in cases where seed had heated. Nearly all growers, fearing poor germination, wasted a great deal of seed during planting operations.

In North Teso the increase of the variety B. 181 by the “wave” system was continued but owing to low yields there was not sufficient seed to plant up the whole Zone, and one area still continued to grow the variety N.17 and the variety S.P.84 was continued in Usuku. In addition, 50 acres of S.5301 (a selection from B.181) were grown at Lalle which is the first increase stage in the North Teso Zone.

In the Segregated Area, seed of B.P.50 B.A.R. was distributed in the Mulondo Peninsula which is the first stage of increase in that Zone. There was no change throughout the rest of the Segregated Area and in South Teso, where the variety N.17 continued to be planted.

Pests and Diseases

Although the early plantings were attacked by *Lygus*, which was heavy locally, this pest generally caused less demand than normally and late plantings practically escaped attention. Blackarm was con-

siderably less than average but *Helopeltis* was very severe in Mbale District towards the end of the year. Cotton stainers were abundant during the buying period but were little in evidence on the subsequent crop.

GENERAL.

Although the cotton acreage during the last ten years has remained fairly constant at around 600,000 acres, production has declined. This is not considered to be due to any loss of soil fertility but to the combination of unfavourable seasons and increased preoccupation with the production of other crops, particularly groundnuts, demanded by war conditions. This has resulted in the crop being later planted than usual together with the attendant evils of insufficient cultivation, particularly the early opening up of land prior to planting and lack of the necessary after cultivation. Cotton yields from Departmental plots which receive proper cultural treatment, including early planting and the correct spacing of the plants, are generally two or three times higher than the average for native plots which points to the fact that by increased attention to these points production can be stepped up appreciably.

Growers in 1948 therefore, will be encouraged to open up their cotton lands earlier than in the recent past and endeavour to plant approximately half their cotton acreage by the end of June, thus allowing them time to establish a large proportion of their crop before the advent of the busy time of the grain harvest which normally takes place in July.

2. Coffee

ARABICA. BUGISHU.

Agronomy.—Propaganda for a higher standard of cultivation continued with some success but much remains to be done especially in respect of *Digitaria* control—unfortunately deep digging forks are still practically unobtainable. A little progress was made with the planting of shade, particularly *Cordia* in the lower elevations, no ordinary issues of new seedlings being made to a grower unless he has made some attempt to plant some shade trees in his coffee plot. Arrangements have been made to raise additional tree seedlings so that the planting of shade trees may be extended to coffee in the higher areas. The planting of wash breaks has proceeded satisfactorily. The organisation for pruning has continued as in previous years and debts for this work were fairly well paid by growers.

SEEDLING DISTRIBUTION.

(a) *Normal Issue*.—Owing to a shortage of seedlings it became necessary to limit the distribution of plants to half the usual number (100 for new growers and 50 for others) in four Gombololas of North and South Bugishu. A fairly good "take" was obtained everywhere, except in Sebei where dry weather immediately followed planting operations. The Kents variety was distributed in South and Central and in two Gombololas of North Bugishu. 382,802 seedlings were issued making the total distribution to date (excluding replacements) 11,573,270:

(b) *Replacement Scheme*.—On account of lack of seedlings, this ten year replacement by uprooting scheme was confined to two (Gombololas (Bufumbo and Nakaloke) only. Elsewhere where the scheme was in operation in 1946, growers were compensated for the loss of seedlings which they had sustained—in some areas the percentage of deaths of replanted seedlings had been high—and the total issues under the scheme were 90,758 seedlings.

To assure success efforts must be directed to planting the replaced seedlings on new land if such is available. This is particularly necessary when the old plot is unfavourably situated or where *Digitaria* is present. One of the main problems is to persuade growers to undertake the unwelcome and difficult task of removing this noxious weed.

Pests and Diseases

Antestia was not troublesome during the year and this pest appears to be well under control. There were the usual small outbreaks of *Bixadus* and the normal routine operations for its control were conducted twice during the year. It has now become routine for samples of cherry to be obtained from each pulper weekly and after pulping they are dried and forwarded to the Senior Entomologist for examination; in this way it should be possible to spot and define accurately the extent of any sudden outbreak of any major pest.

Marketing.—The 1946/47 crop amounted to 3,058 tons of parchment or 241 tons more than in the previous season; of this total thirty per cent. was purchased as cherry. In addition 51 tons of "lights" and 61 tons of "buni" were marketed. The total sum paid to growers was £107,215. There was a slight increase of "growth defectives" but the general quality showed an improvement. The Bugishu District Council continued to run all aspects of buying as agent for the Bugishu Coffee Marketing Company in Central Bugishu and the Bugishu Coffee Scheme organised marketing in the remaining coffee growing areas.

1947/48 Season.—The unseasonable weather in January resulted in heavy flowering and the setting of a crop considerably heavier than the trees could bring to maturity. The failure of the autumn rains was an additional burden to the trees resulting in exceptional "buni" (immature dried cherry) formation. The original crop estimate of 3,500 tons had to be revised to 2,500 tons and by the end of the year a total of 2,232 tons of parchment had been purchased, 41 per cent. of which was bought as cherry—a considerably higher than average percentage—and over 250 tons of "buni" were marketed. At the request of growers the crop was sold by weight instead of by volume as normally and the new system was popular in spite of the fact that very few are capable of reading a scale. Prices paid were nine cents per lb. for cherry and 39 cents per lb. for parchment, an increase of 30 per cent. on the previous season. Premiums were again paid for first quality cherry and parchment and they appear to encourage better preparation, the main difficulty now being in respect of "overripes" which is the principle fault with

picking. Some of the growers co-operative societies maintained and even improved the standard of parchment prepared by their members.

ROBUSTA.

Busoga.—Although cultivation of this crop has been encouraged in the more fertile areas in the South East of Busoga for the past seventeen years or more, little actual progress can be recorded and the total acreage is still not more than 700 acres. Large numbers of seedlings are raised and distributed annually but their care and attention after planting leaves much to be desired and the great majority do not survive the following dry season. There was however some revival of interest this year but only the future will show whether or not this is a genuine attempt to establish a profitable industry. Sales of Kiboko Coffee for the year amount to 20 tons.

3. Oilseeds

GROUNDNUTS.

In spite of the amount of labour involved in harvesting operations growers were keen to plant as great an acreage as possible as groundnuts are a very attractive item in the diet of the people, and a rise in price (from 12 to 15 cents per lb. on the shelled basis) was announced early. An increase in acreage was recorded in Busoga and Mbale and this would certainly have occurred in Teso also (plantings in March and April were more than in the previous year) had weather conditions during May and June been more favourable. As it was the total acreage of 212,333 was 2,000 acres above that of the previous year. The crop grew satisfactorily in spite of too much rain in Busoga and too little in Teso. A total of 7,927 tons of shelled nuts were purchased of which 4,636 tons were bought in Busoga, a record for the District. As it was felt that some growers had prejudiced their seed supplies for future planting some 250 tons were held in reserve for seed purposes. The price of 10 cents per lb. for unshelled nuts made it more profitable for growers to sell their crop in this state, nevertheless people in Teso continued their usual practice of shelling prior to marketing.

There can be little doubt that the popularity attached to groundnut production has had an adverse effect on cotton production particularly in relation to early planting.

SIM-SIM.

Although still popular in Teso, in spite of variable and generally very low yields, elsewhere the acreage under this crop is declining as it is far more profitable to grow groundnuts. In Teso the crop suffered from many vicissitudes, grass-hopper damage, poor germination and finally flower shedding due to drought and the final acreage at 39,476 acres was 6,000 acres less than in the previous season. Sales amounted to 178 tons, all but 2 tons being purchased in Teso.

SHEA BUTTER NUTS.

The Teso crop was reported to be less than usual, but keen competition by Oil Millers raised the price from 10 cents per lb. to an average

of about 14 cents per lb. although higher prices were on occasions paid. The price factor stimulated collection with the result that sales amounted to 867 tons or 204 tons more than in the previous year.

4. Grains

MAIZE.

The policy regarding this crop was to endeavour to grow sufficient maize only for internal local requirements within the Province. In the previous year production exceeded requirements and sub-standard maize from Busoga had to be exported to Kenya as cattle food. Large scale maize production in Busoga particularly was therefore discouraged by the early publication of the news that in the less fertile areas, facilities for marketing would not be made available. This had the effect of reducing the acreage by some 8,000 acres and the total acreage planted in Mbale and Busoga was 77,730, which should have produced a crop at least equal to, if not in excess of, local requirements. Heavy rains during April however induced much vegetative growth at the expense of grain and yields, particularly in Busoga, were below average; the autumn planted crop in Mbale also largely failed. The result was that the total crop marketed was only 39,383 bags compared to 116,962 bags in the previous year and this quantity was insufficient for local needs.

RICE.

The unseasonable rains in the early part of the year caused a big reduction in the acreage planted in Mbale but an average acreage was planted in Teso. The normal method of planting is to plough up swamp or semi-swamp land at the end of the year and broadcast the seed as soon as the land is clean; although encouraged, little transplanting from prepared nursery beds is practised. While both growth and yields in Teso were generally satisfactory, in Mbale many of the early plots were spoilt by flooding while in other cases it was impossible to plant the prepared plots owing to the high swamp levels; favourably situated plots however yielded well and pests and diseases were not troublesome. In Busoga, in spite of the higher prices paid this year (12 cents per lb. for Bungalla and Senna and 10 cents per lb. for other varieties and mixtures of varieties) the crop has practically gone out of cultivation owing to the amount of labour, particularly bird scaring, involved in production. Marketing arrangements were again in the hands of the Eastern Province Rice Millers Association and the total sales amounted to 281 tons paddy compared to 398 tons in the previous season. It can however safely be said that a large proportion of the crop was sold by growers through unauthorised channels at considerably enhanced prices.

BULRUSH MILLET.

In spite of lack of encouragement to grow this crop in Teso, the acreage tends to increase due to the high prices offered by the Indian Community who are unable to obtain alternative foodstuffs as they did before the war. The crop has now been scheduled under the Controlled Produce Regulations, an F.O.R. price fixed, and 58 tons (the produce

from the previous season's crop) were exported from the District early in the year and another 229 tons were purchased after the embargo was placed on the export of food stuffs from Districts as a famine precaution measure.

5. Beans and Pulses

BEANS.

Although encouragement was given to grow an increased acreage in Bugishu and markets were arranged, results were disappointing, growers not being prepared to sell their crop at six cents per lb.

PIGEON PEAS.

Although mainly the produce of the 1946 Teso crop, 1,278 tons were exported from the District early this year and a small quantity (29 tons) was purchased later which will be retained for local consumption.

COW-PEAS.

This is an important item of diet in Teso and 140 tons have been purchased for local consumption within that District.

6. Miscellaneous Production

FRUIT.

The year has been particularly favourable for the production of Citrus fruits but as the East African War Supplies Board's requirements diminished, the Agent to the Control practically ceased to operate in the Province and permits to individuals to export to Kenya were freely given. Towards the end of the year the control of fruit was lifted altogether.

EGGS.

Control was only exercised in Teso where the single Agent purchased some 600,000 eggs for redistribution.

HONEY.

The season was a poor one due to the absence of a normal dry season and production in Teso amounted to 98 tons compared to 348 tons in the previous year.

7. Agricultural Education

TRAINING CENTRES: SERERE.

The short courses in Agriculture for ex-soldiers which began in 1946 were continued throughout the year and as a result it was again necessary to curtail some of the normal educational activities, although in the circumstances a satisfactory programme was carried out. Of the 338 ex-soldiers who reported for these six week courses 272 actually completed the course the remainder falling by the wayside. The European Agricultural Instructor in charge of the course was able to visit a large number of these men at their homes and give them help and advice until his contract expired in the middle of the year, after which the Agricultural Officers undertook this work in the course of normal touring.

There were no Makerere Students in residence during the year, but the annual course for apprentices was held as usual and a two weeks refresher course was arranged for 20 Instructors.

In addition to these purely departmental personnel, courses were arranged for groups of chiefs and cultivators (225 persons attended of whom 14 were women), six groups of cattle keepers, numbering about 100 persons and 48 Prison Warders. These courses continue to be most popular; unfortunately part of their value lies in fairly prompt follow-up-work in the field by Agricultural Officers but with increasing numbers attending the courses and continued lack of field staff, it is not possible to give this work the attention it deserves.

Short courses were also arranged for Vernacular Teachers in training and 124 Teachers, of whom 42 were women, were accommodated.

DISTRICT ACTIVITIES.

Schools were visited whenever opportunity permitted and advice given. In Teso the Agricultural Officer was able to lay out a number of gardens on contour strip cropping lines where these had not been in existence previously. Schools at present are generally not suitable media for popularising or teaching Agricultural subjects, although when staff permits there would probably be a real opening for extension work on the lines of the young Farmers Clubs so popular in England. Agricultural Officers and the Senior African Staff spent a considerable amount of time assisting the Demonstration Teams organized by the Public Relations and Social Welfare Department with talks, agricultural exhibits and demonstrations.

8. Soil Conservation

DEPARTMENTAL DEMONSTRATION CENTRES.

The Ajeluk Centre was handed over to the Teso Native Administration at the beginning of the year as the Department had generally completed the special work it had set out to do in so far as major soil conservation problems were concerned, but very many social problems remain outstanding. An Assistant Agricultural Officer was stationed there throughout the year to assist the Native Administration.

Little or no progress can be recorded from the special demonstration areas, mainly in Busoga, which have been staffed by Rural Assistants and the scheme is to be abandoned. Other demonstration areas, mainly to show what effect the prohibition of grazing and cultivation has on soil rejuvenation and fertility if natural regeneration of grasses is allowed to take place, were maintained and in several instances were handed over to the people once more for grazing and cultivation.

GENERAL PROGRESS.

In Teso strip cropping was everywhere maintained and some efforts were made to realign strips continuously on the contour for better land utilisation. Attempts, so far without much success, are now being made to encourage people to sow *Chloris Gayana* at the end of the crop rotation to provide a grass cover which is both quick growing and palatable to stock. Little progress in the leaving of grass strips between the cultivated land can be reported from Busoga but further progress has been noted in Mbale particularly in the Pallisa area.

Although a number of resolutions affecting soil conservation measures were passed some years ago by the Busoga District Council, the greatest difficulty has been encountered in implementing them and it now appears unlikely if anything worthwhile will be accomplished until the Basoga themselves can be made to realise the dangers of soil erosion and the urgent need to maintain the fertility of their land at the highest possible level.

The Native Administration Prison Farms continue to act as demonstrations of good farming practice and whenever cattle are kept they are given supplementary feeding including cotton seed, hay or silage and are grazed on the resting land thus demonstrating the advantage of dropped manure and its effect on subsequent crops. It is now possible to obtain limited quantities of barbed wire thus facilitating the grazing of resting land.

In Teso the local Councils are now so well aware of the dangers attached to overgrazing that they automatically order the closure of any lands considered by them to be showing signs of overgrazing and see that these areas remain "closed" until such time as recovery has been made.

Other districts are not so conscious of these dangers and instructions usually have to be issued regarding the closure and opening of land to grazing. In the north of Busoga, where there are a number of closed areas, the Animal Husbandry Committee was invited to inspect the areas and advise on the problems of how to prevent further erosion and overgrazing and the spread of thorn scrub encroachment: their recommendations included the provision of additional water supplies and a Tsetse Survey of a large part of the District.

11. Stock

STOCK IMPROVEMENT SCHEMES.

Towards the end of the year it was decided to start a Livestock Improvement scheme on the lines of the Ngogwe Scheme in Buganda at Pingiri not far from Serere. A preliminary survey has been carried out jointly by the Veterinary Officer, Teso and the Agricultural Officer i.e., Serere and by way of inaugurating the scheme a party of Chiefs and Cattle owners paid a visit to Ngogwe to learn at first hand the advantages of improving their livestock. When the scheme comes into operation bulls bred at Serere will be issued on loan to approved cattle owners. Serere is now in a position to demonstrate, not only by the live weight increases recorded but also by the milk yields now being obtained, what can be achieved as a result of proper feeding and management of cattle from birth upwards. It now remains to apply these results, which are within the power of the average person to follow, to livestock in the immediate vicinity of Serere and in this respect Pingiri is very favourably situated.

W. T. O. MAIDMENT,
*Provincial Agricultural Officer,
Eastern Province.*

ANNUAL REPORT—BUGANDA PROVINCE

PART I.—ADMINISTRATIVE

1. Introduction

Weather conditions were responsible for many agricultural abnormalities during the year. In direct contrast to the previous year, 1947 opened with unusually heavy rains which were a continuation of the heavy abnormal November–December, 1946 rains, and which lasted until June. In Buganda, therefore, heavy rain fell almost continuously from April 1946 till the end of May, 1947. Thereafter, until the end of the year the fall was barely sufficient for normal plantings. This again was in direct contrast to 1946. Generally speaking the total fall in Buganda was above average (in Masaka District well above average) but badly distributed for agricultural operations.

The general effect of this distribution on major crops was as follows. Cotton was harvested in the rain with a very deleterious effect on grade, yield and seed viability and prospects of an excellent crop were ruined. Coffee quality suffered too as thorough drying was well nigh impossible. Luckily in many respects the crop, after the previous season's record, was a comparatively small one. Likewise the autumn planted food crops of 1946, after excellent growth, yielded poorly because of excess rain and subsequent rotting.

The 1947 spring plantings were spread over an abnormally long period but vegetative growth was excessive, particularly in the case of maize, with an adverse effect on subsequent yields. The Cotton planting season was delayed because of heavy weed growth and inability to work the land. The only bright side to the picture was the excellent recovery of the plantain gardens, which, owing to the previous year's drought, had deteriorated considerably. The autumn rains, below average in any case, were irregular and spasmodic, a week's useful rain often being followed by two or three weeks' drought. At one time there was a possibility of a food shortage in late 1947 and early in 1948 but this, owing to the excellent supply of plantains, the retention by growers of crops they might have sold, and the sufficient supply of famine reserves such as sweet potatoes and cassava, was averted. All in all, with the very abnormal and erratic conditions the African cultivator had to contend with during the year, results were not unsatisfactory.

Factors such as increased prices, increasing population, increased number of markets, increased numbers of speculative and progressive Baganda either as individuals or groups of individuals in the form of Co-operative Societies, obligations to the East African Cereals Pool, etc., have caused a marked change in agricultural economy, and 1947 was no exception, particularly in Masaka District and in areas of Mengo.

For instance, in Masaka District the recent trend has been the eclipse of cotton as the major cash crop in favour of coffee. Prior to 1941 the cash income from cotton was greater than for coffee, but since

that date there has been a steady increase in the relative difference, the return from coffee outstripping that from cotton.

Production figures are:—

				Average Annual Production 1938-1942	Average Annual Production 1943-1947	Percentage + or —
Coffee	..	..	Tons	7,462	9,656	+ 29
Seed Cotton	..	..	Tons	10,264	3,975	— 61

In 1947 Masaka produced some 1,610 tons of chillies while a number of years ago the trade was a small one. The production everywhere of pulses for Indian consumption continued to increase.

In Mengo the growing of maize for export again had its repercussions on the economy and fertility of the country.

There was also a growing tendency to market crops collectively. The increasing population of urban areas demand more food and the production of food crops for sale is on the increase.

Many of these changes are direct results of war and never has the African cultivator been offered such a variety of crops to grow with a guaranteed market and high price. Prices of crops which are not guaranteed also reached a high peak during the year. The Agricultural staff have not been unmindful of the dangers to which the present trend may lead and policy has again been directed:—

(a) to ensure the internal food position;

(b) to grow for export.

As regards (b), crops which are urgently required such as cotton and oilseeds have been stressed. Other crops with guaranteed markets and prices constitute the second priority.

There was a marked improvement in cattle management, cattle feeding and the use of manure on the land, more details of which are given later.

Early in the year a new appointment of an African was made to the post of Agricultural Adviser to the Mengo Lukiko. Duties were defined and the result was a much closer and efficient liaison in agriculture between the Buganda Government and the Protectorate staffs.

2. Food Production

Buganda, unlike previous years when periodic shortages were common, enjoyed a year of plenty in its staple food "matoke"—the cooked product of the green plantain. This, as already discussed, was a result of the prolonged rains of 1946/47 and subsequent excellent recovery of the plantain gardens. Although the management of these gardens improved slightly in mulching, etc., as a result of normal propaganda and competitions there is still much to be done. In many cases the poor plants and low yields were a result of lack of moisture rather than of infertile soil, the rain merely running off the bare surface instead of penetrating. There is little doubt that plantains as grown at present are in the main uneconomical in the use of land.

Likewise there was no shortage of other food crops, and acreages planted compared favourably with the averages for the past six years.

During the year, Rules under the 1946 Buganda Agricultural Law were promulgated enabling Chiefs to take action against anyone who failed to maintain one quarter acre root crops as a food reserve. Results from these Rules are to date not satisfactory and the increase expected was not forthcoming despite efforts to explain the reasons, such as drought and locusts, behind the Rules.

At the end of the year, food prospects for 1948, which had deteriorated owing to the dry autumn, were brightened by local showers and by February-March, 1948, the position was fairly secure assuming normal conditions in April-May.

3. Cotton

1946/47 SEASON.

Prospects at the end of 1946 were excellent and a very heavy crop was expected. Continuous heavy rain from January onwards ruined these prospects and adversely affected yields, grade and quality. Production statistics were as follows:—

Zone	Acreage	Tons seed cotton sold	Yield Lbs. per acre	Weighted average price per 100 lbs.	
				"A" quality.	"C" quality.
Mengo-Entebbe	308,281	53,069	385	Shs. 20 00	cts. 5 00
Mubende-Toro (including Toro)	82,411	9,942	270	19 22	4 65
Masaka	30,261	4,623	342	19 00	5 00
TOTAL	420,953	67,634	360		

Comparing these figures with those of the 1945/46 season, total acreage was much the same, as was yield per acre in the Mengo-Entebbe Zone. There was a striking decrease in yield per acre in the Mubende-Toro Zone from 519 to 270 lbs., and in the Masaka Zone from 482 to 342 lbs. This resulted in a decrease of total production from 77,483 to 67,634 tons. Prices were increased in all zones by Shs. 2 per 100 lbs.

It will be noted from Appendix I that total acreage, production and yield per acre during the 1946/47 season were slightly above a five year average.

The abnormal weather was responsible for increased black-arm and lygus incidence.

1947/48 SEASON.

Acreages by months are given in Appendix I. The total of 302,615 acres is 118,338 acres less than the 1946/47 season and 89,174 acres less than the five year average. This considerable reduction in acreage was due to a number of factors, including the very wet weather up to the end of May, followed by the very dry weather in June and July and shortage of labour.

Because of the very wet harvest, seed for planting deteriorated and some 1,745 tons of useless seed were replaced by seed from sound sources. In addition, it was necessary to supplement original requisitions by 630 tons, because of doubtful germination as a result of which too many seeds per hole were planted. The net result of the factors above resulted in 66 per cent. of the crop being planted in August and September—the biggest percentage ever. Growth of these late plantings was seriously retarded by an exceptionally dry spell in October–November and at the end of the year prospects were not good.

In addition to the abnormal seed movements above, the usual routine movement of B.P.52 was carried out but on a limited scale.

(a) from Kawanda Main Farm to Kawanda Seed Farm

(b) Kawanda seed Farm to North Bugerere

(c) North Bugerere to South East Kyagwe.

At the end of the year pest and disease incidence was well below average.

During 1948 it is intended to concentrate on a whole hearted cotton campaign so that its place as number one economic crop may be substantiated. The drive will include maintenance or increase but concentration will mainly be made on simple cultivation methods such as time of planting, spacing, number of seeds per hole, time of thinning, etc., which cultivators in recent years have tended to neglect and which are known to increase yields considerably.

4. Coffee

Arabica production continued to be negligible and all references to coffee are to Robusta coffee.

GENERAL.

There is still great scope for increased production from better husbandry. Without additional planting it is estimated that yields could be at least doubled by following simple advice. With this object in view a definite policy was formulated during the year and in future concentration will be made on this policy which will have wide publication.

During 1947 legislation, under the Buganda Agricultural Law, 1946, forbidding the drying of coffee in contact with the ground was enacted, and this, particularly in Masaka District and in Kyagwe County of Mengo District, met with considerable success.

Increased prices at the end of 1946 and again in August of 1947 became effective, bringing them up to:—

Robusta Kiboko (dried cherry) ..	19 cents per lb.
Robusta Clean	38 cents per lb.
Arabica Kiboko	20 cents per lb.
Arabica Clean	44 cents per lb.

at the Licensed Curing Works, had some effect in stimulating the rejuvenation of derelict plots.

The greatest improvement after drying off the ground was in the planting of shade.

Berry borer continued to be the major pest but even this caused comparatively little damage.

During the year the following Nganda coffee seedlings were issued free:—

District				Number of Nurseries	Seedlings issued
Mengo	..	..	..	18	450,232
Masaka	..	..	..	13	255,759
Mubende	..	..	..	9	120,832
TOTAL				40	826,823

It is estimated that the total acreages under Robusta coffee are:—

Mengo	..	..	99,200	acres
Masaka	..	..	40,000	"
Mubende	..	..	3,000	"
TOTAL		..	142,200	acres

From this acreage a "kiboko" (sun dried cherry) equivalent of 31,923 tons were sold with an estimated value of £613,470 to growers. The 1946 and 1945 production figures were 37,387 and 18,967 tons respectively. The bulk of coffee in Buganda is sold as "kiboko" and the low yield of 503 lbs. per acre, which includes non-bearing coffee, clearly shows the scope for improved husbandry.

A strict inspection by Agricultural staff of coffee buying stores resulted in a number of convictions for buying or storing wet coffee. Quality ex curing works was good, although towards the end of the year (1947/48 crop) beans tended to be small because of the dry October–November.

The Coffee Control continued to operate in respect of Native coffee and a five years' contract was made with the Ministry of Food.

5. Oilseeds

(a) *Groundnuts*.—Although holding eighth place in the acreage list at 45,755 acres, the groundnut is not a cash crop of Buganda. Sales through official channels, although prices to the growers were increased to an equivalent of 16 cents per lb., (shelled) and 10½ cents (unshelled) within 20 miles of Kampala, only amounted to 293 tons shelled equivalent with a total value of £5,702. These sales were mainly confined to Mubende District. Over the whole of the Province sales amounted only to 14 lbs. per acre planted although both spring and autumn plantings yielded fairly well.

(b) *Simsim*.—The very small simsim cultivation is almost entirely confined to North Mengo, where interest is waning, the 1947 acreage being only 4,586 acres compared with a 12,345 average. Prices were increased on the same scale as shelled groundnuts but sales were only 95 tons as compared to 198 tons in 1946 and 334 tons in 1945.

(c) *Castorseed*.—The price was increased to Shs. 475/- per ton at any Port or Station in Buganda but collection was no more popular, sales being 167 tons compared to 172 tons in 1946 and 270 tons in 1945.

(d) *Cottonseed*.—The policy of stringent control for fuel, manure and seed was continued and maximum quantities were made available to the Oilseeds Control for internal use or export.

6. Maize

Uganda was again asked to contribute to the East African Cereals Pool and Buganda was the only contributor. An effort to retain in Uganda untreated seed for subsequent planting failed because of the high humidity and subsequent weevil attack and seed, imported from Kenya was sold at six cents per pound to growers. Some 117,000 acres were planted which was 34,000 acres less than in 1946 but only 5,000 less than a five year average. From this, a total of 282,454 bags were bought at five cents per lb. to the grower. Of this total, some 176,088 bags or 62 per cent. were exported to Kenya, the balance of 106,366 being used for local consumption.

Comparative figures for 1946 were:—

Bought—455,488 bags; Exported to Kenya, Tanganyika and Seychelles—345,658 bags.

After the initial rush to sell and rail, which resulted in the usual congestion, accentuated by the limited capacity of the Kenya conditioning plants, marketing and railing became more orderly. A member of the Kenya Maize Control staff co-ordinated the various Uganda interests successfully.

Quality at the outset was below average and rejections were numerous. Strict control was necessary because the first of the Uganda maize was destined for export outside East Africa. Latterly quality improved considerably and 97 per cent. of total exports was F.A.Q., and 3 per cent was accepted which was below F.A.Q.

The total value of the crop to growers was £140,790, *i.e.*, maize is now the third cash crop of Buganda. 483 lbs. per acre planted were sold.

7. Millet

The only millet of any importance grown in Buganda was sorghum. The bulk of it was used for beer making but 257 tons were sold at a value of £1,420 to growers. 164 tons were sold in 1945 and 862 tons in 1946.

8. Pulses

(a) *Mixed Beans*.—This crop declined in popularity only 71,427 acres being planted as against 137,266 in 1946 and an average of 95,257 acres. Only 2,547 tons were marketed, the 1945 and 1946 figures being 7,732 and 9,986 respectively. Beans are an important item in the diet of the Baganda, and with the threatened food shortage in the last quarter of the year, very little of the autumn crop was sold but was retained by cultivators as food and seed.

(b) *Grams*.—Under this head all pulses mainly used by the Indian Community are included. For the greater part of the year these types of produce were not controlled and the demand was great. Prices soared and sales recorded (many were not recorded) amounted to 902 tons with a value of £20,914 to the growers—a very remunerative cash crop which was tending to increase in popularity very quickly. Towards the end of the year maximum *f.o.r.* prices were gazetted with a view to reducing sales eventually to the level required for local consumption only as it

was felt that the land could be more usefully utilised in producing crops which are more urgently wanted. The main producing areas were again North Mengo and Masaka.

9. Miscellaneous Production

(a) *Chillies*.—Chillies, an uncontrolled produce, was the source of much speculation. At the beginning of the year prices were extremely high and poor quality produce was being bought at 40–60 cents per lb. Plantings increased but by May the bubble burst, exporters refusing to buy. During the last half of the year, salvage prices averaging 8–9 cents per lb., were being paid although quality had improved considerably.

The popularity of the crop in Masaka District is reflected in these sales:—

1945: 263 tons; 1946: 584 tons; 1947: 1,609 tons.

Mengo sales reported amounted only to 14 tons in 1947, but because returns are not compulsory for this crop, this figure is obviously low. The Buganda total of 1,623 tons produced an income of £36,361 to growers and is fourth on the economic list.

(b) *Fruit*.—Control of Citrus and Pineapples continued and recorded sales in tons were:—

		Pineapples	Citrus	Soft
1947	..	128 (£724)	198 (£753)	323 (£1,073)
1946	..	543	405	548

Sales of all types therefore decreased considerably during the year.

(c) *Eggs*.—34,255 eggs, as compared with 51,047 in 1946, were purchased by the Control, many of them coming from the Eastern Province. Supplies from Toro and Mubende were few, and demand far exceeded supply.

(d) *English Potatoes*.—74 tons were sold in Masaka District—the only ones where records are kept.

(e) *Onions and Shallots*.—178 tons, mostly in South and East Mengo, were sold at a value of £3,791.

10. Agricultural Education

(a) *Training Centres: Bukalasa*.—Activities at Bukalasa were confined to two aspects—the training of Agricultural staff and the training of ex-soldiers. As regards the former, 24 successful trainees were passed out after a year and employed in district work as Assistant Agricultural Instructors. In addition, two refresher courses each of three months' duration and consisting of 13 Assistant Instructors were held during the year.

As regards the latter, five courses of about six weeks' duration were held, involving 317 ex-soldiers from Buganda and 37 from the Western Province—a total of 354.

This type of course ceased at the end of the year as most of the soldiers had been demobilised. Any remaining will be given the opportunity to attend normal courses which will be resumed in 1948.

On the two years' working a total of 500 ex-soldiers were trained in agriculture—mostly from Buganda. Follow up visits have been made by the Training Officer and District Staff but a complete picture of the value of this training is not yet available, although indications are that about half the number benefited from it.

At the end of their course, trainees were offered small type livestock free and tools at cost price.

(b) *Schools and Missions*.—Advice was given as opportunity arose.

11. Soil Conservation

Response to propaganda to persuade stock owners to use farmyard manure has met with a ready response at Ngogwe Livestock Improvement Area and elsewhere in Buganda, particularly in Kyadondo and parts of Masaka District. Results have been striking and extension is only limited by the supply of wheelbarrows which have proved the most suitable means of transport. In the Kampala Township free distribution of compost (2,136 tons) and coffee husks (742 tons) continued. Results from these too have been very striking and, in the areas treated, food is now plentiful. The possibilities of a similar scheme in Entebbe were investigated towards the end of the year.

Interest was still taken by the Department in Provincial demonstration mitalla, but money spent on these in maintenance was reduced to a minimum. Extension results from these areas have been extremely poor.

(a) *Cultivators' Groups*.—These are mainly centred in Masaka District and results have justified continued interest by the Department.

Noteworthy is the existence of three women's groups which have done excellent work on plantain gardens.

(b) *General Progress*.—Rules under the Buganda Agricultural Law, 1946, concerning the prevention and cure of soil erosion were legalised in May, 1947.

Getting the context of the rules through to cultivators has been a slow process partly because of lack of understanding by chiefs and partly because the junior agricultural staff require more experience in coping with individual and varying problems.

It is the intention during 1948 to train miruka chiefs in batches during their periods at Saza Headquarters and also to train more fully the junior staff on this aspect of their work.

All in all the Province has about held its own during the year, increases in erosion in some areas being compensated by preventive and curative methods in other areas. The most notable improvements have been:—

(a) The application of cattle manure.

(b) Increase in planting of paspalum on road verges and compounds or part compounds.

(c) The sowing (mostly on Experimental Farms and by selected individuals at present) of the more easily established and more easily opened up *Chloris gayana* as well as the more cumbersome and unpopular elephant grass. It is possible that the future of resting land lies in *Chloris* in place of either natural regeneration or establishment of elephant grass.

The present policy of alternate resting and cropped strips has made no progress, partly because of the suspicious landlord, more often absent than present, partly because of the layout of many of the Baganda holdings with permanent crops such as plantains and coffee, and partly because of boundary disputes.

Within small plots the policy of paspalum contour bunds was continued and extended in certain areas to include the plots of a number of adjacent house holders. This overcomes one of the chief sources of gully erosion in Buganda—the deep boundary ditch running up and down the slope, which is dug to keep out couch grass from the neighbouring resting plot.

In Mubende some progress has been made with the establishment of vetiver lines, and spacing of crops has improved.

Everywhere planting of all crops on the contour has improved. Of the permanent crops mulching of plantain gardens, although still very backward, improved slightly as did the regeneration of neglected coffee plots. During 1948 it is the intention to have short concentrated campaigns on grassing of compounds, stopping of gullies, bunds in coffee and other aspects of soil erosion.

12. Mechanical Cultivation

In the middle of the year arrangements were completed for the hire of the Kawanda D.4 Caterpillar tractor and Dragon disc plough to tenants on Kawanda Seed Farm when not required for Departmental work. Arrangements were completed after the main season for cultivation was over, and about 10 acres only were ploughed. Tenants who hired this plough were pleased with its performance and the demand is likely to increase. The difficulty of moving this tractor unit about limits its usefulness, though it does a very good job of work. A Fordson Major was purchased for use on African farmers' land in the Ngogwe area and started work in December. An old Huzzar disc plough was used and appears to be suitable for the work. A mould board mounted plough has also been purchased, but has not done well in dry weather. In order to encourage farmers to adopt better methods of land utilization, a steeply graded price has been adopted for ploughing; the rate for fields over five acres in size is 12/- per acre, going up to 20/- for fields of 2 acres, which is the minimum size tackled. The maximum strip width allowed is 30 yards. Farmers are keen to hire the tractor so far.

At Bukalasa, the Fordson Major on half tracks, with a three furrow "Elite" mould-board plough, trailer type, at the end of the year successfully ploughed and disc harrowed three acres of one farmer on the same

principle as at Ngogwe. The resting land did not contain elephant grass with which the above combination cannot deal.

The Buganda Government was advised against the purchase of tractors and implements until more information and experience had been gained by the Department.

13. Stock

The Ngogwe Livestock Improvement Scheme has been used as a centre for the adoption of improved methods of Animal Husbandry. Work was done in close collaboration with the Veterinary Department. The Ngogwe Stockowners Association has continued to take a keen interest in the advice of officers of both Departments and continued progress can be recorded.

Splitting up of herds into small units owned by one or two individuals and keeping of cattle near the owner's house are the first requisites for any improvement in management, feeding and disease control. The most notable developments during the year have been the spread of improved feeding methods, including cotton seed, sweet potatoes, cassava and elephant grass and the awakening of interest in improved methods of pasture management. A number of stock owners in Ngogwe and elsewhere have purchased ex-military barbed wire for making paddocks; the total quantity sold to African farmers in 1947 was about 30,000 yards. Two farmers have tried out improvement of *Cymbopogon* rough grazing lands by digging out and burning on considerable areas. A number of farmers have planted Rhodes grass in trial plots. Similar work to the above is on the increase elsewhere, particularly in Kyadondo Saza of Mengo District where the main incentive has been the increased price of milk which has made improved management an economic proposition.

Considerable interest is now shown by many African farmers in improved strains of pigs and poultry. The demand for pure bred pigs and cocks is much greater than the supply.

14. Miscellaneous

Agricultural Competitions.—The subject for the nine county shields was again the Plantain Gardens. General opinion was that these competitions were a useful means of propaganda.

Agricultural Co-operative Societies.—Agricultural Societies in touch with the Registrar of Co-operative Societies at the end of the year were:—

Mengo	49 with	1,858 Members
Masaka	11 with	297 Members
Total	60 with	2,153 Members.

Many of these societies have marketed produce in bulk thereby eliminating the middleman's commission. It was realised that close co-operation between members of the Co-operative and Agricultural staff was highly desirable for the mutual benefit of both, and ultimate benefit to the Societies.

Publicity.—A number of articles on topical subjects were submitted for publication in the Vernacular Press. Advice and help was given to the Buganda Demonstration Team of the Public Relations and Social Welfare Department.

EXTENSION WORK.

Propaganda Work.—It has been found much more profitable to hold demonstrations on specific subjects, preferably on farmers' holdings than to talk in Lukiko.

The scheme for increasing desirable varieties of food crops at Prison Farms failed but the Buganda Government has agreed to accept 8–10 employees being trained at Bukalasa in agriculture in 1948, with a view to making Prison Farms self supporting and using them as demonstrations of good farming.

Lectures.—Lectures on agricultural subjects were given by various members of the staff to the Standing Committee of the Mengo Lukiko and to such organisations as Social Welfare Clubs.

D. F. STEWART,
*Provincial Agricultural Officer,
Buganda.*

ANNUAL REPORT—NORTHERN PROVINCE**PART I.—ADMINISTRATIVE****Introduction**

The two main features of the year were the early breaking of the spring and the short duration of the autumn rains. In February, when the Northern Province presents a parched and blackened appearance, the country had taken on a fresh new growth more reminiscent of April in an ordinary year. Abnormally heavy rains fell in April and early May and then drier conditions set in for several weeks. From July onwards until the end of September heavy rains fell and then the dry season began two months ahead of time. In spite of this, rainfall for the year was much above average. In Karamoja the dry season was much less severe than usual and in parts of the district the rains broke early in February. The features of the year were the very heavy rain in April, the severe drought in June, an exceptionally wet July and then the sudden cessation of the rains in October. Taking the year as a whole rainfall was well above average.

The effects of the abnormal weather on crops was naturally very considerable and they are referred to in detail later. Briefly, conditions up to October were not unfavourable to food crops except, at times, to finger millet. Excessive rain tended to delay cotton planting and subsequent cool, dull, wet weather retarded growth. Dry spells in April and May in the West Nile adversely affected tobacco. In Karamoja the June dry spell seriously reduced sorghum yields. From October onwards all crops suffered from drought which halved the expected yield of cotton and made food crops a partial failure.

The year 1947 has not been a prosperous one for agriculture in the Northern Province. From abundance in September, food supplies had declined to mere sufficiency by the end of the year. What should have been a record cotton crop will produce much less than average yields. Slight increases were made in the air-cured and flue-cured tobacco crops in the West Nile and an important development is the growing of flue-cured tobacco in Acholi. At Ngetta Training Centre courses for ex-soldiers were carried on and were attended by 171 men. Soil conservation was kept in the forefront of the agricultural programme and steady progress is to be recorded. Investigations have been made into the possibilities of flood water irrigation in Karamoja, and work on livestock grazing and thorn scrub control has been extended to that area.

Food Production

Conditions during the year were on the whole unfavourable to food crops and yields tended to be below average. Nevertheless, at the end of September the food position was eminently sound except in some of the Kioga lake shore areas. Then the drought caused the failure of the autumn crops and the situation gradually worsened.

The finger millet acreage showed an increase over 1946. The unusual rains in January and February delayed the uprooting of the cotton, which tended to hold up planting. Germination was not as good as usual especially in the later sowings and the cool dull weather and excessive rains adversely affected growth and tillering and made it difficult to deal with the abundant weeds. Subsequently prospects improved and at harvest, yields were reasonably good. The autumn crop of finger millet in the West Nile suffered severely from drought.

Sorghum in the early rains produced satisfactory crops in the three more fertile districts but in Karamoja, where it is virtually the only food grown, the crop was a partial failure. Almost everywhere throughout this district the crop was characterised by its unhealthy stunted appearance and by poor, badly filled heads. This was considered by the Karimojong to be due to a short, sharp drought which occurred in early June at a critical period in the development of the crop. Stem-borer did more damage than in normal years and weed growth was excessive.

Increased acreages of cassava and sweet potatoes were planted. The rains during the first two months of the year were of great benefit to crops planted late in 1946. Up to September both sweet potatoes and cassava grew well but later the drought made itself felt, especially on the former. Planting of sweet potatoes on swamp edges and similar damp places was vigorously advocated. Cultivators were exhorted to lift, slice and dry all potatoes coming to maturity and not required for immediate consumption.

Beans suffered from too much moisture in the early rains and the autumn crop was a poor one due to drought. Pigeon peas, being more drought resistant, produced quite good yields.

At the end of the year the food position was that adequate but not ample stocks of food existed in all Districts except Karamoja to feed the populace until the spring crops could normally be expected to produce fresh supplies. If the spring rains are late or insufficient, the food position from July, 1948 onwards is likely to be dangerous. In Karamoja more than the usual supplies of maize meal will be required to feed the people between the time when their sorghum is exhausted and the new crop comes to maturity. In order to conserve supplies, the export of food has been forbidden and the brewing of beer restricted.

ECONOMIC CROPS

1. Cotton

1946-47 CROP.

Most of the cotton was planted in July and August and this late planting, due to the delay in the breaking of the rains, coupled with excessive rainfall from August to November, caused considerable reduction in yields. This was especially so in Acholi where 700 acres were destroyed by flooding. The acreages planted showed satisfactory increases in all districts. Marketing commenced on 13th January in the West Nile/Madi Zone at Shs. 19 per 100 lbs. and on 27th January in the other Zones at Shs. 18. These prices were an increase of Shs. 2

per 100 lbs. on those of the previous season. The cotton came in very slowly due to lack of gunny bags, and marketing dragged on into April in Lango and Acholi, and May in West Nile. During the buying period more rain than usual fell, which had an adverse effect on the grade and lengthened the growing period of the plants. Uprooting and burning was delayed and 10 to 15 per cent. of the crop was left unpicked. The quality of the lint was quite satisfactory. Production figures are given in Appendix I.

1947-48 CROP.

Preparation of the land began in good time and, generally speaking, planting was rather earlier than in the previous season, the most notable improvement being in the West Nile/Madi Zone. Germination was good and early growth satisfactory. Further increases in acreage were recorded in Lango District and in the West Nile/Madi Zone. These are considered to be due to the effect of the improved price paid for the past season's crop and the further advance of Shs. 2 per 100 lbs. announced during the planting season. In Acholi, the East Upper Zone also showed an increase in acreage. The decreases in the other two Acholi zones are partly apparent only, because of a more realistic computation of acreages; and partly due to difficulties encountered by the Acholi type of hoe in dealing with the abnormally luxuriant growth of grass after burning, caused by the excessive rains of April and May. The South Lango Zone acreage has fallen considerably from the previous year's due to unpropitious conditions in Kumam.

Wet cool and cloudy weather was experienced until the end of September and with the change to warmer drier conditions in early October, the cotton was in a most promising condition and a record crop was in prospect. But from then onwards no more effective rain fell. The early planted crop, in spite of losses from bud and boll-shedding and premature opening, withstood the drought well but late plantings were almost a complete failure. Production in Lango and Acholi will be much reduced from last year, though not so seriously as was at one time feared. The West Nile/Madi Zone, reaping the reward for early planting, is expected to equal or even to exceed last year's tonnage. The grade of cotton is excellent on account of the dry weather but the lint is short, weak and harsh, being the poorest quality for a number of seasons.

PESTS AND DISEASES.

The cotton crop was remarkably free from damage by pests and diseases. Blackarm was present during the wet period and *Lygus* was prevalent in certain areas. With the advent of the drought in October the development of both was arrested. Cotton stainers and bollworms were less prevalent than usual. *Helopeltis* appeared as usual sporadically in all three Districts.

COTTON SEED.

Distribution of locally grown seed proceeded smoothly in the normal manner. Considerable extra supplies had to be sent out during the

planting season especially in West Nile. The varieties grown continued to be N.17 in Lango and East Acholi and B.P.52 elsewhere.

2. Coffee

ARABICA.

A small acreage of *Arabica* coffee is still cultivated in the southern highlands of the West Nile but most of the plots planted in previous years are now entirely neglected, their owners having lost all interest in the crop. Nurseries are maintained at Paida and Warr but only a few hundred young trees can be disposed of annually to intending growers. Purchases during the year were as in 1946, under one ton.

3. Oilseeds

GROUNDNUTS.

Under present conditions, with the possibility of food shortages and the keen demand for fats in their diet by the Nilotic peoples, ground-nuts must be regarded as a food rather than as an economic crop in the Northern Province. The acreage showed a slight reduction from the previous year and while yields from the early crop were about average the late crop was a failure. Marketing commenced on 8th September at 15 cents per pound for shelled and 12 cents for unshelled nuts but practically no nuts were forthcoming in the organised markets. With the continuation of the drought, the resultant fear of shortage of food, the failure of the autumn crop and the need to safeguard supplies of seed for planting, markets were closed down in November.

SIMSIM.

A considerably increased acreage was planted and fair yields were obtained from the early crop. The late crop failed from lack of rain during the growing period. In Lango marketing began on 8th September at 15 cents per pound but was stopped in December. Sales in that District were on the same low level as in 1946; they were negligible in Acholi and non-existent in West Nile. Considerable quantities changed hands among the Africans themselves, often in minute parcels at fantastic prices.

SHEA BUTTER NUTS.

Sales in 1947 show an increase of about 20 per cent. over the previous year. The price was 10 cents per pound. Large quantities were consumed at home by the cultivators. Due to the rains in January and February, the large scale late burning of grass in the Lango/Acholi shea butter nut area was less severe than was hoped for from the point of tsetse control and little of the expected damage was done to the trees.

4. Grains

MAIZE.

The acreage in the West Nile District remained at last year's level. No maize was sold for export but large quantities changed hands among the Africans themselves in West Nile District and to local employers of labour,

RICE.

A marked increase in the acreage under this crop has taken place in Lango. Yields from the early plantings were fair but later plantings suffered from lack of rain. Except for a few tons in the West Nile no sales were recorded. The growers themselves consume a certain amount of their produce but large quantities are sold at high prices on the "black market".

5. Beans and Pulses

PIGEON PEAS.

As a result of the high prices obtained for this crop in 1946 and early 1947, when sales were not controlled, the acreage shows a further increase. Approximately 410 tons were sold in 1947 at prices around 25 cents per pound. In order to conserve food supplies, no sales for export were permitted from the crop harvested towards the end of 1947.

6. Tobacco

FLUE-CURED.

West Nile.—The production of a small crop of flue-cured tobacco was carried on at Terego. Sowing of the first series of beds began on 18th February. Germination and growth of the plants in the beds was good but owing to delay in the preparation of plots transplanting, which commenced in April, was somewhat delayed. The early plants established themselves well but those put out in May suffered from drought and there were many failures. 55.8 acres were planted, the varieties being Jamaica Wrapper and White Stemmed Orinoco. In June and July growth was good and harvesting began on 8th July. The heavy rains at this period produced a leaf that was difficult to cure. Prices were five, four and three cents per pound for light, medium and heavy leaf respectively and most of the leaf came into the first two grades. At the end of July there was considerable congestion in the factory and some of the medium leaf had to be air-cured along with the heavy grade, which is normally cured in this way.

A second series of beds was sown in March but most of the plants were lost through becoming overgrown in the beds owing to the dry spell in May and June preventing transplanting.

A third series of beds was sown at the end of May and these, added to the plants saved from the second series, planted a crop of 31.6 acres. This crop made fairly good growth and harvesting took place in October.

Both crops were purchased, cured, graded and baled by the African staff at the Government Factory at Terego. A total of 27,610 lbs. of flue-cured leaf was sold together with 298 lbs. of air-cured. The quality of the leaf was similar to that of 1946, with rather a low proportion of the better grades and an unduly high proportion of scrap.

Acholi.—The growing of flue-cured tobacco was undertaken by the British American Tobacco Company at Gulu on an experimental scale, using three planting periods.

Sowing of the first seed beds began in January and transplanting took place at the end of March and beginning of April. The crop made good growth except for the ravages of white ants and the leaf was purchased at the same prices as in the West Nile in June and July, all being bought as light and medium. The production from this crop of $12\frac{1}{2}$ acres was 4,962 lbs. of flue-cured and 551 lbs. air-cured giving a total of 5,513 lbs. of cured leaf and an average of 441 lbs. per acre.

Nurseries for the second crop were sown at the end of April and transplanting took place in heavy rain between 25th June and 16th July. Growth was excellent and marketing began at the end of August. The leaf cured out bright and of better quality in body and length than the first crop. The yield of cured leaf from $11\frac{1}{2}$ acres was 6,116 lbs. of which all but 274 lbs. was flue-cured. This gave the very satisfactory average yield of 594 lbs. per acre.

A third crop was planted in torrential rains between 5th and 21st August and the stand was extremely poor. For the first three weeks the ground was waterlogged and thereafter conditions were dry. Growth was negligible and flowering was premature. The leaf cured out green and the crop was a failure. 10 acres produced 2,272 lbs. of which 140 were air-cured, giving an average of 227 lbs. per acre.

The varieties grown were Bonanza and White Stemmed Orinoco.

It will be seen that apart from the third crop, which had little chance owing to the unfavourable weather, the indications are that flue-cured tobacco can be grown very successfully in West Acholi. The yield per acre of the first crop was good and of the second excellent and the quality of the leaf satisfactory. White ants and "Frog-eye" (*Cercospora*) caused some trouble but means have been found of controlling both. Arrangements have been made for maximum expansion in production in 1948.

AIR-CURED.

In the West Nile District nurseries were sown from 18th February and germination and growth were satisfactory, though a number of beds were lost through flooding in April. Not as much energy as could have been desired was shown in the preparation of land for planting and the crop was limited almost entirely to Koboko sultanate. Even there the seedlings were ready before the land that was to receive them and a dry spell in April caused a further set back. Considerable damage was done by stem-borers in certain areas. After these early difficulties the crop made fairly good growth and harvesting took place from mid-July until late in August. There was a good deal of damage from hail and a small quantity of tobacco was lost by fire in the barns. Wet weather during curing necessitated the use of fires in the barns to prevent moulds and to dry out the mid-ribs. Marketing commenced on 8th October at 37 cents per pound for Grade I and 27 cents for Grade II. The quality of the leaf was good and, with the exception of 1942, the crop was the best since 1938 both for total production and yield per acre. It is hoped that in 1948 and subsequent years we may get back to something like the pre-war production of over a quarter of a million pounds.

8. Miscellaneous Production

BEESWAX.

A small quantity of beeswax was purchased in Acholi.

Agricultural Education

NGETTA TRAINING CENTRE.

Courses for ex-soldiers were carried on until the end of November. During the year four courses were held, the first being a cattle keepers course. The number of trainees who have attended Ngetta since the inception of the scheme have been as follows:—

		Lango	Acholi	West Nile	Bunyoro	Total
1946	..	63	48	38	3	152
1947	..	39	27	93	12	171
TOTAL ..		102	75	131	15	323

The majority of those attending the courses showed keen interest in the work and applied themselves well. The courses were of six or eight weeks duration and in addition to lectures, practical work was given on the Training Farm. This is laid out in contour strips and cultivated partly on an economic and partly on a food crop rotation each including a resting period. Examinations were held at the end of each course. The number who did really well in those was surprisingly high while those who failed to achieve a reasonable standard was comparatively low. It still remains to be seen how much lasting practical benefit the trainees have obtained. During the year the European Agricultural Instructor and his staff paid visits to as many trainees as possible to give them assistance and advice.

RURAL ASSISTANTS.

The four Rural Assistants in Lango have been absorbed into this Department. One remains in charge of the soil conservation work in Kioga. Of the three who assisted in training the ex-soldiers at Ngetta one has been appointed Assistant Headman on Ngetta Farm and the other two are doing "follow-up" work among the ex-soldiers to assist them on their holdings to put into practice the teaching they have received. The African Agricultural Instructor at Ngetta is also engaged on this work.

Soil Conservation

DEPARTMENTAL DEMONSTRATION CENTRES.

The Experimental Farm at Ngetta has now been under cultivation for over twenty years and since the change over in 1933 to the rotation of three years cropping and three years resting, with cattle grazing the resting land, there has been a definite increase in fertility. Although not laid out in the strip system the cultivated blocks are divided at thirty five yard intervals by uncultivated strips which prevent any possibility of soil wash.

The Training Farm established for the ex-soldiers in 1946 is cultivated on approved strip cropping lines.

The Native Administration Prison Farms at Gulu and Lira, in addition to providing food for the prisoners, are valuable demonstration centres. They are laid out in strips and cultivated on a rotation including a resting period. Mixed husbandry is practised, the resting land being grazed.

In general all Departmental plots, such as the Introduction Centres in Karamoja and the experimental, observation and seed-increase plots scattered throughout the other three Districts are designed as demonstrations of soil conservation.

GENERAL PROGRESS.

Considerable progress has been made in Lango District in the adoption of strip cropping, contour ploughing and planting, the practice of leaving uprooted weeds in rows across the slope to prevent surface wash and in the construction of bunds. There is still a belief that these anti-erosion measures are concerned mainly with the cotton crop and it is difficult to prevent uncultivated strips and bunds from being removed during cultivation for food crops. Over the greater part of the District there is no serious pressure on the land and an adequate resting period is normally given after three or four years cultivation. Natural regeneration is normally quite rapid. Certain areas along the lake shores and in the Kioga peninsula of Lango have suffered from serious denudation due to injudicious grazing, the main reason being inadequate water supplies. During 1947 there were eighteen areas closed to grazing in Kioga. At four places previously closed, grazing was again permitted. Unfortunately, six closed areas were burnt off towards the end of the year, thus retarding recovery by at least another year. Closing of land to grazing is a matter which requires careful thought, for it may lead to too heavy a concentration of stock elsewhere. The laying down of thorn branches on bare patches has a most beneficial effect in encouraging rapid colonisation by grasses.

In Acholi, with its sparse population and small numbers of cattle, the importance of soil conservation has not yet been brought home to the people. In certain areas there has been an advance as regards the leaving of uncultivated contour-strips between the cultivated plots, but the tendency is still to remove them when preparing the land for wimbi after cotton.

In the cotton growing areas of the West Nile District, especially in Madi sub-district and Aringa, very gratifying results were achieved in the introduction of strip cropping. Many of the cultivators are at present opposed to leaving uncultivated strips between their plots and prefer to construct earth or trash bunds. In the tobacco areas the objection that uncultivated strips harbour pests appears to be justified so far as grasshoppers are concerned, but earth and trash bunding has been taken up to a considerable extent. Much work requires to be done in the high country, where a great deal of cultivation is carried out on steep slopes and close to the banks of streams, but here also a good start has been made to tackle the problem.

In Karamoja the problem is mainly one of livestock. Nearly half the District is infested with tsetse fly and there is a considerable area of mountainous country unfit for grazing. In the area remaining, some 5,000 square miles, grazing must be found for approximately one million head of cattle, sheep, goats and donkeys. In spite of the excellent progress that has been made in the provision of watering places, there are still too few, and stock must be concentrated within a practicable distance of them. Besides the necessity for clearing grazing areas of fly and increasing the number of watering places, the numbers of livestock must be kept within reasonable limits. It is extremely difficult to induce the Karamojong to part with their cattle and during the past two years sales for export have fallen to about 4,000 head. During the war years, as a result of intensive propaganda to assist the war-effort, the number of cattle purchased by Messrs. Liebig's buyer averaged over 10,000 head. The years 1942-44 show a downward trend but there was a rise in 1945 due to the necessity for selling cattle to purchase food after the disastrous harvest of 1944. The 1947 harvest has been poor and it is expected that sales will show an increase during the first half of 1948. A scheme has been inaugurated by the Native Administration to export cattle direct to Kampala and it is hoped that this will encourage the selling of stock.

In addition to the damage being done by livestock, considerable erosion occurs on the extensive areas of sorghum grown round the "manyatta" or groups of huts. All cultivation is done by the women and work on the land is far beneath the notice of the men, which makes the introduction of anti-erosion measures even more difficult than usual. To make matters worse, large numbers of milking and young stock are maintained permanently at the manyatta, which latter remain *in situ* for three to five years.

As a result of a visit to Karamoja by the Director of Agriculture, Aden, in 1946, preliminary investigations have been made into the possibility of introducing Aden methods of irrigation by flood-water control. The District Commissioner and Agricultural Officer visited the Aden Protectorate during the year to study the problems on the spot and they have prepared a detailed scheme for the introduction of flood-water irrigation on an experimental scale, spread over a period of two years. If it can be successfully adapted to Karamoja conditions this method of irrigation, of which bunding is an integral part, will have far-reaching effects in preventing soil erosion.

Closely bound up with the question of increasing available grazing is that of eradicating or of preventing the spread of thorn-scrub. Observations have continued in the Kioga peninsula of Lango, and at Amudat in Karamoja observation plots have been laid down to study the effect of burning and grazing on the vegetation in a thorn scrub area.

Stock

IMPROVEMENT SCHEMES.

At Ngetta Farm the breeding herd of cattle was maintained. During the year rigorous culling was carried out and all animals not up to a

reasonable standard of milk production, conformation and size were sold off. The best yielding cows were retained in the milking herd. Fourteen cows of good size and conformation but not up to the average for milk production were formed into a "ranged" herd, in which they are not milked but suckle their calves. The cattle at Ngetta, after seven years of selection and good management, are a striking contrast to the average native herd in Lango. There are several promising young bulls and they may reasonably be expected to leave their mark when used for improving native herds. During the year seven young bulls were issued to the Veterinary Officer for the Kioga Live Stock Improvement Scheme.

In Karamoja a small breeding herd has been established at Kangole but the Introduction Centre there has not been found an ideal site and the stock will be transferred to Iriiri. In Moroto the Agricultural Officer has taken over the management of the Native Administration herd which is kept for supplying milk to the township. Valuable information is being collected on calf mortality, milk yields, fertility, feeding, etc., the first investigations of their kind in Karamoja.

At Iriiri, near the Teso boundary of Karamoja, arrangements have been made to lay out large scale grazing trials to obtain information on the stock-carrying capacity of the land during the wet and dry seasons. The paddocks will extend over 1,300 acres.

Non-Native Agriculture

Non-native agriculture is confined to the West Nile District where flue-cured tobacco, chillies, papayas, coffee, sugar cane, and fruits are grown on three estates. The first named crop is of some importance and produced approximately 100,000 lbs. of cured leaf. Some 30 tons of chillies and five tons of coffee were sold and a small amount of sugar in the form of "jaggery". The papayas are not yet in bearing.

R. P. DAVIDSON,
*Provincial Agricultural Officer,
Northern Province.*

ANNUAL REPORT—WESTERN PROVINCE

PART I.—ADMINISTRATIVE

1. Introduction

Weather conditions were abnormal in all Districts. During the first two months of the year Bunyoro experienced cool damp weather with frequent showers instead of the hot, dry season then expected. The other three Districts also had heavier rains than usual during this time. From March to May rainfall was plentiful or even sometimes excessive and temperatures were low. In Bunyoro there was a short dry spell in June followed by excessive rains in July, August and September, with many severe hailstorms. In Toro, Ankole and Kigezi the dry season set in and was less than usual except in southern Kigezi where it extended from mid May until late in September. The late rains were lighter than usual everywhere and in Bunyoro the dry season started in October. In parts of Ankole, notably Nyabushozi, very little rain fell during the second half of the year.

Efforts were continued to maintain food production at a high level with much success during the first half of the year when the weather if not ideal, was certainly favourable. later, adverse conditions seriously limited food production over much of the Province.

Among economic crops a very satisfactory advance has been made in the production of nicotine tobacco in Kigezi. Due to eelworm in the nurseries and to hail damage efforts to increase substantially the fire-cured tobacco crop in Bunyoro were unsuccessful and production remained at last year's level. Trials of flue-cured tobacco were made in Ankole and of the "Lebanon" type (*N. rustica*) in Toro. Sunflower was grown in trial and increase plots in Ankole and Kigezi and Linseed in Toro. The cotton crop, though not an important one in this Province, was well above the average in the 1946-47 season and in 1947 the acreage in Bunyoro increased by more than half. Unfortunately, lack of rain during the growing season prevented normal development. The flax industry in Kigezi made substantial progress in efficiency and increased production. A large part of the activities of the Department were directed towards soil conservation with excellent results in Kigezi and less spectacular success elsewhere. An important feature of the year has been the development of the Resettlement Scheme in Kigezi.

2. Food Production

There have been adequate supplies of food for internal consumption during the year. The weather for the first six months was favourable generally to the growth of food crops and the position when the spring sown crops were harvested was highly satisfactory. After that the situation deteriorated considerably. With the threat of locust invasion from the South and the necessity for making sure of supplies of food sufficient to last until mid 1948, endeavours were made to induce the

African cultivators to plant a large acreage of all crops in the late rains but our efforts were mainly counteracted by the dry conditions which obtained from October onwards particularly in Bunyoro, parts of Ankole and South Kigezi.

Grain crops generally produced satisfactory yields and acreages were about average. The sorghum crops in Kigezi and Ankole made good growth and yielded well. Finger millet suffered from the vicissitudes of the weather in all districts. In Bunyoro the lengthened growing period of the cotton tended to delay sowing and the wet ground did not make an ideal seed-bed; the same conditions obtained more markedly in Toro, where also the harvesting of the crop planted late in 1946 was interfered with by the rains. As the season advanced the spring sown crops established themselves well but there was also a luxuriant growth of weeds which required much labour to control. The late crops in Ankole turned out remarkably well in spite of the paucity of the rains, but in Bunyoro and Toro the dry weather had an adverse effect on the later sowings.

Cassava and sweet potatoes planted late in 1946 received most welcome assistance from the unseasonable early rains. During the first half of the year conditions were ideal in all districts for extending the acreage of these crops but full advantage was not taken of the opportunity. In Ankole the acreages of both were allowed to fall below the five year average and in Bunyoro, although there was no great difference from the 1943-47 mean, the acreages of both cassava and sweet potatoes show a heavy reduction from the high level attained in 1946. This was due to the difficulty of inducing the peasants to look ahead and plant for the future while supplies of food were so abundant in the present. During the latter part of the year the drought made it impossible to make up lost ground, though sweet potatoes were planted in damp places wherever possible to secure a supply of planting material for 1948.

The care of plantain gardens still leaves a great deal to be desired. Mulching and the control of soil erosion are seldom given the attention they deserve and sanitary measures against *Cosmopolites* (Banana Weevil) are usually neglected. Growth was adversely affected by the dry weather in the latter part of the year and this will have its effect on later yields.

Beans and peas suffered from too much rain in the first part of the year and from lack of it later, but acreages and yields were, on the whole, reasonably good.

There has been a definite lack of vegetable fats in parts of Kigezi and to alleviate this the cultivation of sunflower has been introduced and is being extended. Seed of groundnuts has been supplied to the Resettlement Areas, at present for food but later it is hoped to develop groundnuts as an export crop.

The food position at the end of the year, while not as secure as could be wished, was nevertheless fairly satisfactory. Supplies of food in store and in the ground are considered to be adequate in all Districts to feed the people until the crops grown in the first part of 1948 are due to be

harvested. There will be no superabundance anywhere, however, and little surplus for export. It has been necessary to curtail the issue of permits to purchase food and to restrict the brewing of beer. Should the spring rains of 1948 be unduly delayed or be deficient in quantity there will be grounds for anxiety regarding the future.

3. Economic Crops

COTTON

1946-47 CROP.

Bunyoro.—The bulk of the crop was planted in July and August and the acreage was the smallest since 1942/43. This was considered to be due to the energetic drive for increased food production. Exceptionally heavy rains fell from August to November but damage by Blackarm and Lygus did not take the heavy toll that was expected. Marketing commenced on 27th January at a price of Shs. 18/50 per 100 lbs., an increase of Shs. 2 from the previous season, and the crop turned out surprisingly well at 1,837 tons of seed cotton. Grade and quality were below average.

Toro.—Planting was, as usual, late but the acreage was the highest since 1940/41. In its early stages the cotton made vigorous growth but later the crop suffered from excessive rains which continued throughout the harvesting period. Marketing commenced on 24th February and continued into May. The price paid was based on Shs. 20 per 100 lbs., an increase of Shs. 2 from 1945/46, and averaged Shs. 18/42 for the Toro part of the Mubende/Toro Zone. The grade was poor due to rain stain, insect stain and to the presence of pieces of leaf and rubbish. The quality of the lint was below average but better than might have been expected.

1947-48 CROP.

Bunyoro.—Following the higher prices paid in the 1946/47 season and with the further advance of Shs. 2 per hundred pounds announced during the planting season, cotton extended greatly in popularity and the acreage planted was the largest since 1936/37, showing an increase of over 50 per cent on the previous year. The bulk of the crop was again planted in July and August and germination was satisfactory. Heavy rains fell from July to September and the early growth of the crop was good. In October prospects were excellent but practically no rain fell from then onwards. The crop as a whole suffered considerably and the late plantings failed almost completely. Fortunately, much of the Biseruka crop was planted early and that area has suffered less than other parts of Bunyoro. Picking commenced in Biseruka in November and became general in December. Yield per acre will be below average, but with the increased acreage it is hoped that total production will not be far short of last season's figure. Grade is excellent but the staple is short, weak and rather harsh.

Toro.—In spite of the increases in price the cotton acreage showed a reduction of over twenty per cent. from the previous season. This is considered to be due to the claims of food production and the high prices

of food crops and partly to dry weather in certain areas during the planting months. Germination and early growth was satisfactory but during October lack of rain affected the crop adversely. In November and December prospects improved and at the end of the year it appeared that this year's production would equal that of 1946/47.

PESTS AND DISEASES.

No serious damage was done to the cotton crop by pests and diseases. Blackarm was feared during the wet weather but with the change in conditions the spread of the disease was arrested. Lygus and Cotton Stainers have been less prevalent than usual.

COTTON SEED.

The variety grown continued to be B.P.52 in both zones and seed was supplied from local ginneries. In Bunyoro considerable wastage of seed occurred.

COFFEE

Arabica.—The production of Arabica coffee in the Western Province is mainly centred in Toro and small quantities are produced in Ankole and Kigezi.

Nurseries are maintained in all Districts and during 1947 young trees were issued as follows:—

Toro	..	..	174,262
Ankole	..	..	88,805
Kigezi	..	..	20,000
TOTAL			283,067

These figures show a very large increase over 1946, the enhanced prices having stimulated planting. In Kigezi, where cultivation had almost fallen into abeyance, there has been a marked revival of interest in Ruzhumbura and Kinkizi, and nurseries are being extended. Endeavours were made to improve planting methods, with considerable success in Ankole where most of the young trees have established themselves in spite of unfavourable weather.

The maintenance of mature coffee plots leaves a great deal to be desired, especially in Toro. Pruning, mulching and weeding are too often neglected though some progress is to be recorded in Ankole and Kigezi.

Antestia remains the chief pest on Arabica coffee and it is prevalent in all areas where the crop is grown.

Weather during the first half of the year was favourable to the crop but lack of rain during the ripening period caused much die-back, with loss of crop and damage to heavy bearing trees. The crop is purchased by licensed buyers, mostly as hulled coffee and, except for that produced in Mwenge and Kyaka counties of Toro, Western Province Arabica commands a premium of 2 cents per pound over Kampala prices, that is 46 cents in Kampala.

Robusta.—The main production of Robusta coffee in the Western Province is in Bwamba county of Toro District. A few tons are grown

in Ankole and negligible quantities in Kigezi and Bunyoro. During 1947 young trees were issued as follows:—

Toro	..	..	45,762
Ankole	..	..	11,134
Bunyoro	..	..	9,377
TOTAL			66,273

As with Arabica, the standard of cultivation is poor. In Bwamba a group of cultivators have made some progress in pruning and mulching their coffee. Rice in Bwamba and other annual crops elsewhere tend to be more popular than long term crops like coffee.

The same marketing arrangements are made for Robusta as for Arabica, except that the Bwamba crop is sold under an exclusive licence. Prices are based on 38 cents per pound in Kampala.

OILSEEDS

Groundnuts.—Except in Ankole the production of groundnuts is mainly for local consumption. Crops in Toro were poor and there was a considerable reduction in acreage in Bunyoro. In Kigezi the crop is becoming popular at the lower elevations in Ruzhumbura and Kinkizi, and seed has been issued in the Resettlement Areas. The Ankole crop showed a reduction in acreage due to dry weather during the main planting season in the second half of the year. Sales during 1947, which included the crop growth in the previous autumn, were 913 tons, a record for the District, being more than double the 1946 figure.

Sim-sim.—A small acreage is grown in Bunyoro and the crop is mostly consumed locally. Sales during 1947 amounted to a few tons only.

Castor Seed.—A few tons were purchased in Toro.

Sunflower.—Trial plots and seed increase plots were established in Ankole and Kigezi. In the latter District the seeds are becoming a popular article of diet. It is hoped to establish sunflower as an export crop.

Linsced.—With a view to investigating the possibilities of this crop, trial plots were grown in Toro.

GRAINS

Maize.—Endeavours to make Ankole and Bunyoro self-supporting in maize were continued. In Ankole the spring crop grew well but the autumn crop was much reduced owing to lack of sufficient rain in the early stages. Sales during 1947 were more than double those of the previous year, but less than half of the record reached in 1945. In Bunyoro the acreage planted and yields harvested were poor and sales were negligible. The highest producing District in the Province in 1947 turned out to be Kigezi; the bulk of the purchases there are ground locally and some of the flour is exported to Ankole.

Rice.—Production was maintained in Bwamba on a similar scale to last year; the majority of growers still plant upland rice; preferring the smaller yield for less work to the heavier yields obtainable from irrigated paddy. Irrigation channels were constructed in three areas with successful results.

Wheat.—A few tons were marketed in Toro and Kigezi.

BEANS AND PULSES

Soya Beans.—The acreage showed a considerable reduction from the two previous years and was 7,704 acres only. This was due partly to unfavourable weather during the second half of the year and to a waning in popularity of the crop in Igara and Shema Counties. Sales were considerably less than in the two previous years and amounted to 530 tons.

Local Beans.—In Ankole purchases again approached the level reached in 1944 and 1945. A few tons of beans were purchased in Kigezi by local employers of labour. The acreage planted in Bunyoro was considerably more than in 1946 but the drought during the latter part of the year had a most detrimental effect on the late crop.

Peas.—These are a crop which became very popular in Ankole when prices were uncontrolled, and sales rose from an average of 16 tons for the years 1944–46 to something over 200 tons in 1947.

TOBACCO

FIRE-CURED.

The cultivation of fire-cured tobacco in the Western Province was confined to Bunyoro. Every endeavour was made to extend production but in spite of the efforts made and the increase in price of 2 cents per pound to 37 and 27 cents for Grade I and Grade II leaf respectively the area planted was 4,754 acres, a reduction of 226 acres from the previous year.

Nursery beds were prepared in January but not as early or as thoroughly as could have been desired. Sowing commenced during the first week of February and continued on a rotational basis throughout the month, the total number of beds being 17,500 enough for a considerably increased acreage of tobacco in the field. 47 lbs. of Heavy Western seed imported from Nyasaland was used in addition to 77 lbs. of Bunyoro seed of the same variety. Germination was good and the growth of the seedlings during March was satisfactory. Later much damage was caused by "damping-off" and eelworm, the latter pest being of widespread occurrence and resulting in a shortage of seedlings for transplanting.

Planting commenced at the end of March and continued into May. The crop was well established with ample rain but subsequent weather was not ideal. The tobacco suffered first from excessive rain and lack of sun and then from a dry spell in June. In July, when harvesting was in progress, there were heavy rains. Hail was the feature of the year and did unprecedented damage in July and August, destroying over 25 per cent. of the crop.

Curing was well done on the whole with only slight losses from "pole-burn". In spite of the unfavourable weather the leaf turned out heavy and gummy and much of it was considered by the buyers to be better than anything marketed for many years. This is considered to be largely due to the fresh seed from Nyasaland.

Marketing commenced on 6th October and proceeded smoothly in the usual manner. 60 per cent. of the crop was purchased as Grade I, this being the highest proportion of Grade I on record. The crop turned out to be just over the estimate of 1,600,000 pounds and about 75,000 lbs. less than that of the previous year.

In addition to buying the graded leaf, arrangements were made to purchase scrap tobacco at five cents per pound for export to the United Kingdom for nicotine extraction.

In view of the unsatisfactory preparation of nurseries in 1947 special attention was directed to this in December and 75 per cent. of the nursery sites were dug over before the end of the year in preparation for the 1948 crop.

MASINDI TOBACCO FACTORY.

A total of 557,727 lbs of leaf were reconditioned and packed in the Masindi Tobacco Factory. Approximately half of this was Bunyoro fire-cured tobacco packed for the East African Tobacco Company and the rest consisted of air-cured and flue-cured tobacco from the West Nile, flue-cured scrap for the United Africa Company Limited and Bunyoro fire-cured scrap for export.

NICOTINE TOBACCO.

In Kigezi the nicotine tobacco crop has made steady and substantial progress since its introduction in 1941. As usual two crops per year were grown. The crop planted in September 1946 was purchased in May and June 1947, and that planted in March and April was marketed in November and December. The first produced 367,518 lbs. and the second 457,500 lbs. making a total of 825,018 lbs. with an average yield of 515 lbs. per acre. These two crops taken together show an increase of 58 per cent on the two crops purchased in 1946. The price paid to growers was 12 cents per pound and a cess payment of one cent per pound was introduced and became payable on the second crop. Both crops were grown under favourable weather conditions and showed a considerable improvement in the quality of the leaf offered for sale, particularly in regard to moisture content.

The second crop planted in 1947 was less fortunate in its weather and suffered a slight reduction in acreage due to lack of rain at planting time. Subsequent growth was somewhat impaired by the continued dry weather and the crop is estimated at 380,000 lbs.

The crop in Ankole has not met with the same success as in Kigezi. Although there has been some improvement recently, the people of Buhwezu have not as yet really taken to the crop. The two crops marketed in 1947 yielded 61,226 lbs. and 70,014 lbs of cured leaf respectively and the average yield per acre was 427 lbs. The second crop in 1947 suffered from lack of rain at planting, but later the weather was more favourable. The acreage is 173 acres, a slight increase on the two previous crops, and fair yields are expected.

In view of the acute shortage of nicotine every effort is being made to increase production in both Districts. Nurseries have been extended and new areas in Kigezi have been brought in for the cultivation of this crop.

FLAX

A Flax Manager having experience of the crop in England was appointed and took over management of the industry on 1st January. Flax production continued in Kigezi and the neighbouring area of Ankole. Weather conditions during the year were by no means ideal. In January hot dry weather during harvesting had an adverse effect on the fibre. Heavy rains during March and April delayed the sowing of the next crop and the 1947 autumn crop suffered from lack of rain during the growing period. The main variety continued to be "Liral Crown" but 20 acres of "Stormont Gossamer" were grown during the first part of 1947 and 30 acres with the later crop. The Manager considers this variety to be a definite improvement and its use is being extended.

A new system of marketing was introduced whereby buying was supervised by the Flax Manager and cash paid on the spot. This made it possible to exercise some discrimination as regards quality of the straw. Anything under twenty inches in length was refused and a small bonus was given for really good straw. The prices paid were three cents per lb. for straw and six cents per lb. for seed.

Production at the factories amounted to 97.04 tons of fibre and 45.22 tons of tow during 1947, an increase of 24.54 tons of fibre and 1.22 tons of tow over 1946. Messrs. A. Baumann & Co., were appointed selling agents.

It is felt that the industry is now established on sound lines and a steady increase in production is envisaged. The average quality of the fibre is reasonably good, though the tow leaves something to be desired. The Flax Manager reports that in spite of the rather unfavourable weather the straw produced at Lubale in Ankole and at Kamwezi and Kichwamba in Kigezi equalled in length anything he has seen in the United Kingdom.

4. Miscellaneous Production

Onions.—This crop is of some importance in Ankole and shows a considerable increase in production. One grower in Isingiro grew a crop which yielded him a revenue of over Shs. 800. A small quantity was exported from Toro.

Potatoes (Solanum) are grown to a small extent in Kigezi, Toro and Bunyoro but Blight disease *Phytophthora infestans* is a serious factor in reducing yields. Seed of resistant varieties has been obtained from Kenya and is being multiplied at Kachwekano and Kyembogo.

Beeswax.—In Kigezi purchases increased by about 20% but there was some reduction in Toro.

AGRICULTURAL EDUCATION

There are no training centres in the Western Province. Apprentices and Assistant Instructors attended courses at Bukalasa and Serere, and ex-askari who elected to undergo agricultural training were dealt with at Ngetta.

At Kachwekano Farm in Kigezi a ten-day course was held for the entire field staff of the Department including apprentices. Lectures

were given daily by the Agricultural Officer and covered a wide range of subjects. Practical instruction was also given and, at the end, an examination was held. A similar course was held for fifty Gombolola, Miruka and Batongole chiefs. Great interest was shown by those attending and it is believed that these courses are one of the most valuable forms of propaganda for the improvement of Agriculture in the district as a whole.

The two Rural Assistants posted to Ankole have been absorbed into this Department and have been engaged in "follow-up" work among ex-askari, in laying out a new Prison Farm at Mbarara and on the supervision of the cultivation of Nicotine tobacco in Buhwezhu County, besides other agricultural duties.

5. Soil Conservation

DEPARTMENTAL DEMONSTRATION CENTRES.

Kachwekano Farm served as a useful demonstration to Chiefs and others attending courses of instruction. Two areas at Kirima and Kambuga in the Kigezi Resettlement Areas were cultivated to provide food and seed for settlers and also as an example of strip-cropping.

Kyembogo farm in Toro is maintained as an example of proper methods of soil conservation.

In Bunyoro work on the special centres of Bulera and Rwensa has been confined to the maintenance and further extension of tree planting on the hill-tops. There is little cultivation of these areas.

A new Prison Farm, on strip-cropping lines, has been laid out at Mbarara.

GENERAL PROGRESS.

Kigezi District is far ahead of other Districts in soil conservation work and it is believed that much of the success so far attained is due to the fact that all sections of the African community have come to understand the underlying reasons for preventing erosion. Reorganisation of existing cultivation on to continuous contour strips proceeded smoothly and rapidly and practically all the cultivation is now arranged in this way. The maximum width of strips is 16 yards and on the steeper slopes this is reduced to 12 yards. The cultivated strips are separated by contour bunds. With line crops contour planting has been largely adopted and sweet potatoes are ridged on the contour. There has been steady progress in the introduction of a resting period into the rotation. In the over populated areas one strip in three resting is advocated and in the North, where there is less pressure on the land, the cultivation of annual crops is now done on true strip cropping lines, with alternate strips resting. There has been an improvement in the mulching of perennial crops. Considerable attention has been paid to compounds and paths, many of which are grassed and bunded. Stone-filled ditches under the eaves of the houses catch the water from the roof, thus preventing incipient gullyng. Compost pits are now a noticeable feature and the product is applied to crops grown in the vicinity of the homesteads. There has been some increase in the use of kraal manure.

A soil conservation competition was held during the year in Kigezi and the final judging was done by the Senior Chemist in August. Money prizes were given to the Chiefs and Instructors in the winning gombolola, Maziba, and a feast was given to the people. Great interest was aroused by the competition, and its educational and propaganda value was very considerable.

In Toro District endeavours were sustained to increase the amount of land cultivated on the strip system. The plots are separated by uncultivated strips or by earth and trash bunds but unfortunately the tendency is for plots to be too wide on the steeper slopes. The mulching and bunding of coffee plots improved somewhat in Busongora. Banana gardens all over the District require a great deal of attention.

Good progress has been made in the spread of strip cropping in Bunyoro and more cultivators are becoming conscious of the need to prevent soil erosion. Attempts have been made to mark the uncultivated strips by poles to ensure their permanency. A prevalent cause of erosion is the practice of leaving open furrows round the edges of cultivated plots, for a proportion of the ditches are bound to be up and down hill.

In Ankole efforts were continued to induce cultivators to adopt strip-cropping in their own food plots as well as in the plots on which produce for sale is grown. The latter are normally quite well laid out under the supervision of Chiefs and Instructors. Buhwezhu County is in advance of other parts of the District as regards leaving uncultivated grass strips between the cultivated plots but some of the backward areas are becoming more amenable to persuasion. The erosion problem is not yet obviously acute and the need to take measures to conserve the soil is slowly being appreciated. One of the chief dangers lies in cattle tracks on steep land.

A party of 45 chiefs and others from Bunyoro, Toro and Ankole visited Kigezi in November. The visitors appeared much impressed by the work which had been done by the people of Kigezi and it is hoped that they will improve their own practice as a result of what they saw.

6. Live Stock

At Kachwekano Farm a herd of Nkungu (polled) cattle is being built up. The cattle are kept primarily to enable mixed husbandry to be practised, but at the same time it is desired to maintain a herd that will produce stock which can be used to improve the native cattle in the neighbourhood.

The flock of sheep at Kachwekano was severely culled and reduced to forty of the best animals. The conclusion has been reached that wool production is unlikely to give successful practical results in Kigezi and the sheep are now being selected for mutton, coupled with hardiness, good conformation and early maturity.

7. Resettlement

In 1946 a Resettlement Scheme was inaugurated in Kigezi to relieve the pressure on the overpopulated areas in the neighbourhood of Kabale by emigration to the unpopulated country on the Lake Edward escarpment in Kinkizi and Ruzhumbura Counties. The scheme made satis-

factory progress in 1947 and by the end of the year approximately 5,500 people had settled down in their new environment. It was fortunate that in northern Kigezi weather conditions were favourable and crops yielded well. As a result most of the new settlers were self-supporting in food by the end of the year. During 1946 it was estimated that approximately 1,500 men, women and children had moved into the Resettlement Areas and by December 1947 it was found that the total population permanently settled there was 5,479 of whom 967 were taxpayers. In addition, a further 329 taxpayers had made preliminary arrangements for settlement, taken up land and started cultivating. They will shortly be followed by their wives and families, who will bring the total population up to some 7,600 souls. It is considered that the present Resettlement Areas can absorb a total of approximately 11,500 people or a further fifty per cent.

In the early stages the main consideration has been the cultivation of food but the need for economic crops has not been overlooked. Seed of groundnuts and sunflower has been issued and flax and coffee also are being grown in suitable areas.

The essence of the Resettlement Scheme is that it has been entirely voluntary. Emigrants from the congested areas have been given assistance in the way of transport, relief from taxation and the provision of food on arrival in the new areas, but no pressure at all has been exerted to induce them to leave their old homes. In the new areas settlers are given all possible freedom of action compatible with proper utilisation of the land and protection from game. The provision of new roads, schools and medical facilities has been an essential part of the scheme. Representatives of all sections of the community have emigrated together, and village life in *Rukiga Ensy*a (New Rukiga) has been organised on the same lines as those under which the people lived before pressure on the land made emigration desirable.

8. Non-Native Agriculture

The coffee estates in Toro reopened in recent years have been maintained.

The Toro Tea Estates have produced satisfactory results and an increased acreage has been planted on some new tea gardens.

With the great demand for papain at the end of 1946, a large acreage of pawpaw was planted on estates in Toro and Bunyoro. Unfortunately the price for papain dropped considerably during the second half of 1947.

In Bunyoro some estates were opened up for the cultivation of fire and air-cured tobacco. In Toro several estates grew Lebanon tobacco for the Middle East trade and good yields were obtained.

Due to the uncertain future of quinine the Government Cinchona Station in Toro was handed over to this Department and has been kept on a maintenance basis.

R. P. DAVIDSON,
Provincial Agricultural Officer,
Western Province.

Cotton Production 1946-47 Season

Province and Zone	Acreage		Sale in Tons		Yield per acre in lbs.	
	Totals 1946-47	Means 1942-46	Totals 1947	Means 1942-46	1947	Means 1942-46
BUGANDA—						
Mengo-Entebbe	308,281	295,935	53,069	47,377	385	358
Masaka	30,261	35,051	4,623	3,875	342	270
Mubende-Toro	82,411	65,964	9,942	10,057	270	354
TOTALS	420,953	396,950	67,634	61,309	332	327
EASTERN—						
Busoga	238,132	244,949	25,502	26,241	240	248
South Central	109,036	102,379	8,048	6,456	163	141
North Central	114,660	117,413	10,269	10,470	195	192
North Teso	51,809	36,358	1,617	1,235	72	72
Usuku	20,778	17,076	760	986	85	123
South Teso	60,667	44,568	3,654	3,158	142	176
Segregated Areas	39,369	25,199	2,356	2,004	134	148
TOTALS	634,451	587,942	52,206	50,550	147	157
WESTERN—						
Bunyoro	12,609	13,367	1,838	1,394	326	223
NORTHERN—						
North Lango	63,495	51,481	7,893	4,350	278	177
South Lango	38,075	31,318	2,316	1,749	136	122
West Acholi	28,219	14,818	2,347	1,514	185	198
East Acholi: Upper	19,896	10,427	1,660	919	187	282
East Acholi: Lower	11,773	894	894	170	170	170
West Nile-Madi	23,786	17,473	1,669	1,509	157	198
TOTALS	185,244	125,517	16,779	10,041	185	195
PROTECTORATE TOTALS	1,253,257	1,123,776	138,457	123,294	204	205

Appendix Ib.

Cotton Production 1947-48 Season.
Monthly Plantings—Acres

Province and Zone	April	May	June	July	August	September	Totals
UGANDA—							
Mengo-Entebbe	..	172	8,830	65,604	120,341	31,865	226,812
Musaka	..	743	3,605	4,250	9,357	7,864	25,819
Mubende-Toro	..	263	3,738	17,391	20,951	10,489	53,032
TOTALS	..	1,178	16,173	87,445	150,649	50,218	305,663
EASTERN—							
Busoga	..	1,066	13,155	66,430	71,299	32,509	184,459
South Central	..	387	9,017	48,213	36,283	4,224	98,124
North Central	..	1,746	17,461	53,776	47,639	3,266	123,878
North Teso	..	5,238	10,436	9,002	5,173	650	30,499
Usukuma	..	5,766	1,398	491	11	..	11,044
South Teso	..	3,635	13,949	20,695	10,137	183	48,599
Segregated Areas	..	3,386	6,403	9,242	8,215	588	27,834
TOTALS	..	21,224	71,819	207,849	178,747	41,420	524,437
WESTERN—							
Bunyoro	..	8	1,724	9,610	7,475	798	19,615
NORTHERN							
North Lango	..	1,273	29,077	35,581	7,554	2,116	75,603
South Lango	..	567	3,572	16,445	8,733	1,966	31,283
West Acholi	..	2,235	3,839	13,447	4,692	50	24,292
East Acholi: Upper	..	919	4,456	10,476	5,830	..	21,681
East Acholi: Lower	..	276	3,558	3,809	1,240	..	8,883
West Nile-Madi	..	..	2,071	16,587	6,185	194	25,037
TOTALS	..	5,270	46,573	96,345	34,234	4,326	186,779
PROTECTORATE TOTALS	..	27,680	136,289	401,249	371,105	96,762	1,036,494

Crop Production

Estimated Acreage under Crops 1946 and 1947

Native Cultivation

Crops	Buganda Province		Eastern Province		Northern Province		Western Province		Totals	
	1946	1947	1946	1947	1946	1947	1946	1947	1946	1947
Beans, Mixed	123,444	71,424	130,224	135,527	41,104	42,520	102,338	94,458	397,110	343,929
Beans, Soya	9,091	8,617	98	..	..	7	11,427	7,706	20,616	16,330
Cassava	112,309	101,600	151,641	128,197	134,472	116,314	85,657	88,273	484,079	434,384
Chillies	9,185	8,656	..	..	..	..	25	122	9,160	8,778
Coffee, Arabica	2,855	2,850	8,830	9,210	..	..	3,278	3,442	14,963	15,502
Coffee, Robusta	139,668	142,271	684	699	..	..	2,874	4,023	143,226	146,993
Cotton	420,953	305,663	634,451	524,437	185,244	186,779	12,609	19,615	1,253,257	1,036,494
Flax	..	..	..	..	..	..	2,012	2,912	2,012	2,912
Grams	13,085	23,203	..	..	..	..	80	60	13,165	23,263
Groundnuts	59,355	43,753	217,223	212,333	59,800	56,243	..	16,862	336,378	331,193
Maize	145,173	116,903	88,121	77,730	25,314	20,466	49,130	43,124	307,738	258,223
Millet, Sorghum	15,338	15,844	149,050	145,321	174,654	112,681	129,899	137,205	468,941	411,051
Millet, Finger	33,342	15,972	640,347	600,894	282,379	265,950	117,307	124,688	1,073,375	1,007,504
Millet, Bulrush	..	..	10,000	10,844	..	740	..	..	10,000	11,584
Onions	..	..	..	..	140,600	124,095	1,218	1,461	1,218	1,461
Peas, Pigeon	..	..	..	..	700	..	30,784	30,032	140,600	129,745
Peas, Field	1,282	..	..	..	..	..	..	32,766	30,032	30,032
Plantains	442,690	462,535	253,133	254,000	1,027	397	79,720	72,076	776,570	789,008
Potatoes, Sweet	111,543	94,672	175,476	144,555	76,123	73,400	149,263	139,944	512,405	452,571
Potatoes, English	1,462	1,104	..	..	..	..	1,712	2,109	3,174	3,213
Rice	..	..	50,518	22,184	3,060	3,502	2,634	2,084	56,212	27,770
Simsim	12,045	4,586	45,052	39,476	165,783	213,886	8,381	9,892	231,261	267,840
Tobacco, Fire-cured	..	..	..	..	75	141	..	..	6,370	4,754
Tobacco, Flue-cured	..	..	..	..	275	249	..	..	75	141
Tobacco, Air-cured	..	..	..	..	..	..	1,420	2,022	275	249
Tobacco, Nicotine	..	..	..	..	..	..	632	360	1,420	2,022
Wheat	..	..	..	..	..	..	..	..	632	360
Totals	1,652,770	1,421,655	3,203,649	2,305,407	1,290,610	1,222,370	798,770	807,874	6,945,799	5,757,306

Appendix III.

Crop Production—1947
Quantities Marketed and Estimated Values, Native Production

Crop	Buganda Province		Eastern Province		Northern Province		Western Province		Protectorate Totals	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	Tons	£	Tons	£	Tons	£	Tons	£	Tons	£
Beans, Mixed	2,546	17,348	141	1,576	..	..	337	2,265	3,024	21,189
Beans, Soya	870	8,220	1	18	..	..	530	4,155	1,401	12,393
Castor Seed	167	3,015	..	..	..	..	2	39	3,184	3,054
Chillies	1,623	36,361	..	..	..	..	..	..	1,623	36,361
Coffee, Arabica	739	14,713	3,058	107,215	..	..	224	11,835	4,021	133,763
Coffee, Robusta	31,921	613,470	19	405	..	..	314	11,397	32,254	623,272
Cotton	66,637	1,475,277	52,206	1,100,269	16,779	321,381	2,835	58,655	138,457	2,955,582
Cotton, Seed	..	..	..	..	..	..	..	..	..	..
Flax, Straw	..	..	..	..	..	..	591	2,336	591	2,336
Flax, Seed	..	..	..	..	..	..	75	525	75	525
Grams	902	20,914	5	62	..	..	..	..	907	20,976
Groundnuts	298	4,702	7,927	133,167	4	59	922	12,403	9,151	150,331
Maize	25,218	140,795	3,536	15,836	..	..	482	2,129	39,236	158,760
Millet, Sorghum	256	1,510	12	67	..	..	..	..	268	1,377
Millet, Finger	10	65	..	..	..	..	..	..	10	65
Millet, Bulrush	..	..	229	2,565	..	..	..	..	229	2,565
Onions	178	3,791	29	325	410	11,480	132	1,789	310	5,580
Peas, Pigeon	..	..	..	..	..	..	250	5,600	680	17,405
Peas, Field	..	..	..	..	..	..	..	..	..	..
Potatoes, English	74	413	..	..	..	..	..	..	74	413
Rice	94	1,427	281	3,469	8	140	143	1,281	432	4,890
Simsim	..	..	178	2,980	68	1,119	9	152	349	5,678
Shea Butter Nut	..	..	870	12,653	371	4,155	..	..	1,241	16,808
Tobacco, Fire-cured	..	..	..	..	..	..	720	30,376	720	30,376
Tobacco, Blue-cured	..	..	..	..	63	903	..	..	63	903
Tobacco, Air-cured	..	..	..	..	36	1,376	..	..	36	1,376
Tobacco, Nicotine	..	..	..	..	..	..	427	5,737	427	5,737
Wheat	..	..	..	..	..	..	16	180	16	180
VALUE TOTALS	£2,342,021	..	£1,380,607	..	£340,613	..	£150,754	..	£4,213,995	..

NOTE.—All values are based upon prices paid to the producers.

Comparative Statement of Exports of Domestic Produce from the Uganda Protectorate.

A. Quantities.

		1941	1942	1943	1944	1945	1946	1947
	Unit.							
Grain and Flour	Cwt.	3,614	15,422	57,595	62,393	119,420	181,718	144,801
Feeding Stuffs for Animals	Ton	285	106	30	50	721	1,266	1,344
Chillies	"	6,523	9,586	12,224	13,405	9,406	23,214	39,451
Coffee, Raw Hulled	"	389,449	343,942	393,534	364,506	393,493	610,403	413,660
Salt	"	17,857	22,679	27,882	29,891	29,078	36,374	30,936
Sugar, Refined	"	234,417	290,404	229,880	209,834	221,343	191,239	384,604
Tea	"	7,980	12,860	9,969	12,746	18,150	11,983	21,581
Other Articles of Food and Drink	Value							
Cigarettes	Lbs.	889,709	1,035,024	1,286,257	1,891,023	2,001,107	2,053,881	1,743,146
Tobacco, Manufactured	"	60,825	54,718	43,974	41,972	24,707	36,796	17,505
Tobacco, Unmanufactured	"	951,496	662,921	598,744	923,246	263,450	403,948	227,411
Timber	Cu.ft.	65,960	88,499	5,471	9,597	37,030	317,007	123,938
Tin Ore	Ton	450	444	393	385	287	296	189
Cotton, Raw	Cental	1,463,803	944,212	491,260	758,079	1,057,818	876,779	1,012,323
Sisal, Fibre and Tow	Ton	899	1,901	1,355	958	998	1,055	677
Seeds, Cotton	"	2,653	20,714	10	13,829	34,094	22,872	10,153
Seeds, Sesame	"	95	250					
Groundnuts	"	2,888	6,960	368	2		3	2,106
Hides	Cwt.	32,381	32,668	35,411	22,060	21,043	16,280	30,632
Skins	No.	383,731	351,145	174,308	184,610	475,068	720,905	893,058
Rubber	Cental	10,813	13,992	19,131	15,188	12,945	13,839	4,226
Ivory	Cwt.	461	292	240	386	570	696	433
Other Unmanufactured Articles	Value							
Methylated Spirits	Gals.	6,444	12,909	568	1,238	1,352	1,244	738
Other Articles	Value							
Gold Bullion	Oz.	10,872	11,016	5,001	3,228	2,751	2,490	1,432

NOTE.—Exports to Kenya are not included

B. Value—£.

	1941	1942	1943	1944	1945	1946	1947
	£	£	£	£	£	£	£
Grain and Flour ..	1,274	6,450	31,919	40,826	85,992	191,955	228,887
Feeding Stuffs for Animals ..	842	300	75	140	4,771	12,982	18,662
Chillies ..	18,964	30,335	28,728	41,581	40,742	103,735	149,046
Coffee, Raw Hulled ..	597,271	702,829	1,143,165	1,012,618	1,143,211	1,767,448	1,535,707
Salt ..	2,635	3,901	4,720	5,734	4,966	6,477	7,880
Sugar, Refined ..	162,197	212,394	178,099	173,397	197,998	201,490	407,126
Tea ..	55,359	96,344	73,173	88,286	120,531	86,061	240,471
Other Articles of Food and Drink	44,162	28,731	71,476	88,588	67,133	..	90,445
Cigarettes ..	99,467	254,324	442,802	563,983	673,618	769,635	726,283
Tobacco, Manufactured ..	13,928	6,902	6,388	7,323	4,623	5,064	4,605
Tobacco, Unmanufactured ..	32,254	21,383	31,381	43,146	7,476	12,153	7,232
Timber ..	13,034	16,118	693	2,373	12,502	103,690	41,368
Tin Ore ..	64,412	69,006	67,820	68,247	50,894	53,255	40,151
Cotton, Raw ..	4,262,235	2,861,475	3,237,822	5,043,413	7,025,774	5,620,079	7,118,962
Sisal ..	17,694	36,084	30,296	22,991	27,098	30,436	34,491
Seeds, Cotton ..	7,479	58,248	19	57,467	142,240	105,374	65,101
Seeds, Sesame ..	1,228	4,000	..	..	..	..	1
Groundnuts ..	43,492	115,040	6,067	42	..	52	65,198
Hides ..	97,868	128,400	138,290	84,361	80,742	94,273	266,026
Skins ..	25,924	26,721	13,143	26,185	60,042	184,385	207,831
Rubber ..	43,723	57,417	71,669	57,073	48,629	53,988	21,177
Ivory ..	18,373	13,256	14,999	23,687	37,711	50,974	32,459
Other Unmanufactured Articles	8,773	8,864	28,793	51,489	73,170	..	103,156
Methylated Spirits ..	1,142	2,592	130	258	..	286	171
Other Articles ..	2,839	6,989	4,789	7,917	11,161	..	24,769
Gold Bullion ..	74,331	73,103	33,265	20,837	17,920	16,642	10,475
TOTAL	£ 5,710,900	4,841,206	5,659,721	7,531,862	9,939,202	9,479,444	11,447,680

Appendix V.

Crop Production—Uganda.
Non-Native Production—1947

Crop	Estimated Acreages		Estimated Production			
			Amount		Value	
	1946	1947	1946	1947	1946	1947
	Acres	Acres	Tons	Tons	£	£
Coffee	11,313	17,591	3,182	4,897	241,832	342,790
Rubber	7,000	7,000	618	189	53,988	21,177
Sugar	28,279	28,000	46,031	56,916	966,651	1,206,619
Sisal	9,420	8,600	1,055	850	39,436	42,500
Tea	4,525	5,121	1,186	1,725	265,640	386,534
TOTALS ..	60,537	66,312	52,072	64,577	1,567,547	1,999,620

UGANDA PROTECTORATE Principal Agricultural Legislation—1947

Legal Notice No.	Ordinance or Regulations and Short Title	Reasons
7 22 241	Controlled Produce Regulations, 1943: Regulations 7(a), (c), (f) and (h): Fixation of Prices for cotton seed and transport charges to station or mill; bagging and disposal of cotton seed.	To provide for the disposal of cotton seed and at fixed prices and to ensure the maximum utilisation of supplies for use as seed and for milling and export.
21	Controlled Produce Regulations, 1943: Regulation 7(a): Prices for Rice.	Fixing of prices for rice and maize at a higher level.
30	Tea (Control) Ordinance, 1940: Proclamation of extension of period of Ordinance.	To extend the application of control of tea cultivation and production.
32	Defence Regulations, 1939: Control of Export of Tea Order.	To confine export of tea to a manufacturer or his accredited representatives.
37	Controlled Produce Regulations, 1943: Regulation 5(d): Prices of Primary Produce.	To fix prices for maize in Masaka District.
77	Controlled Produce Regulations: Regulation 7(a): Prices of Primary Produce.	Fixation of minimum prices for shea butter nuts to the producer at -/10 cts. per lb.
87	Defence Regulations, 1939: Information required from Producers of Non-Native Robusta Coffee.	To enable all producers of Non-Native Robusta Coffee to be registered.
104	Defence Regulations, 1939: Regulation 38: Prices of Produce.	To fix maximum F.O.R. prices for grams and pulses with the object of controlling excessive production.
171	Controlled Produce Regulations, 1943: Regulation 7(a): Prices of Primary Produce.	Revision of prices for certain controlled crops and consolidation of previous amending legislation.
198 203	Controlled Produce Regulations, 1943: Regulation 5(b): Addition of pulses and grams to the schedule of controlled produce.	To provide for the control of export for these crops.
237	Native Produce Marketing Ordinance, 1935: Additional Declared Area.	Addition of a portion of Mubende District to the schedule of declared areas to provide for the control of tobacco marketing in that area consequent upon the extension of tobacco production to Mubende District.
246	Controlled Produce Regulations, 1943: Deletion of Fruit from First Schedule.	To provide for resumption of normal trading in view of excess of supply over demand.

Ordinances

Ordinance No.	Title	Reasons
7	Tea (Control) (Amendment) Ordinance, 1947	To make provision for the planting of tea without permit by persons planting up to 100 trees and the manufacture of tea for domestic consumption and also to amend the provision for control of export.
11	Non-Native Marketing Ordinance	To establish a Non-Native Coffee Marketing Board for the purchase and disposal of all non-native coffee.

Buganda Government Legislation

General Notice No.	Title	Reasons
235 of 1947	Agricultural Law, 1946: Rules	To make provision for the proper drying of coffee, control of soil erosion and the uprooting and destruction of old cotton plants.

DEPARTMENT OF AGRICULTURE, UGANDA

Staff Postings—1947

A. ADMINISTRATIVE

Title	Name	Station	Period	Remarks
<i>Director of Agriculture</i> ..	A. B. KILLICK	Entebbe ..	5- 5-47—31-12-47	Transferred from Kenya. Acting Director of Agriculture up to 5- 5-47. Transferred to Northern Rhodesia Acting Deputy Director of Agriculture 1-1-47—7-5-47 and 18-7-47—31-12-47.
<i>Deputy Director of Agriculture</i> ..	E. F. MARTIN	Entebbe ..	1- 1-47—17- 7-47	
<i>Principal Agricultural Officer</i> ..	T. R. HAVES	Entebbe ..	1- 1-47—31- 7-47	
<i>Senior Agricultural Officer</i> ..	W. J. MILL IRVING	Entebbe ..	18- 4-47—31-12-47	

B. GENERAL DIVISION

<i>Principal Agricultural Officer</i> ..	W. T. O. MAIDMENT	Jinja ..	1- 1-47—31-12-47	Transferred to British Honduras. Seconded to Makerere College. Officer-in-Charge, Kawanda Experiment Farm. Officer-in-Charge, Serere Experiment Farm. Acting Senior Agricultural Officer 1- 1-47 to 20- 5-47. On leave prior to resignation.
<i>Senior Agricultural Officers</i> ..	R. P. DAVIDSON	Gulu ..	1- 1-47—31-12-47	
	M. G. DE COURCY-IRELAND	Masindi ..	1- 1-47—27- 6-47	
	C. W. L. FISHLOCK	Kampala ..	1- 1-47—24- 6-47	
	T. McEWEN	Masaka ..	1- 1-47—27- 6-47	Acting Senior Agricultural Officer, Entebbe 1- 1-47—22- 4-47, Kampala 23- 4-47—31-12-47.
	R. W. STUCKEY	Makerere ..	1- 1-47—31-12-47	
	H. L. G. MILNE	Lira ..	23- 4-47—31-12-47	
	R. K. KERKHAM	Kawanda ..	1- 1-47—31-12-47	
	E. WILLIAMS	Serere ..	1- 1-47—31-12-47	Acting Senior Agricultural Officer, Entebbe 1- 1-47—22- 4-47, Kampala 23- 4-47—31-12-47.
	G. B. MASEFIELD	Kampala ..	1- 1-47—11-11-47	
	D. R. N. BROWN	Kampala ..	1- 1-47—22- 8-47	
	J. W. PURSEGLOVE	Kabale ..	1- 1-47—31-12-47	
	J. M. WATSON	Moroto ..	1- 1-47—31-12-47	Agricultural Officer Bukalasa, 1- 1-47—24- 6-47.
	D. F. STEWART	Kampala ..	23- 4-47—31-12-47	
	G. D. BADGER	Mbale ..	1- 1-47—31-12-47	
	S. McCOMBE	Masaka ..	25- 6-47—31-12-47	

R. K. TREMLETT	..	Mbale	..	1- 1-47— 9- 8-47
P. S. COOPER	..	Hoima	..	1- 1-47— 31-12-47
G. WRIGLEY	..	Kampala	..	26- 6-47— 31-12-47
A. E. B. WILLIAMS	..	Bukalasa	..	1- 1-47— 31-12-47
E. S. T. MARSHALL	..	Soroti	..	1- 1-47— 31-12-47
J. W. HEXT	..	Jinja	..	1- 1-47— 31-12-47
J. F. LOW	..	Serere	..	1- 1-47— 31-12-47
R. W. MALING	..	Kampala	..	1- 1-47— 31-12-47
E. DE C. CHISHOLM	..	Serere	..	1- 1-47— 31-12-47
T. BOOTHROYD	..	Kampala	..	1- 1-47— 31-12-47
G. OLIVER	..	Kawanda	..	1- 1-47— 31-12-47
W. GALLEY	..	Hoima	..	10- 2-47— 25- 7-47

Senior European Agricultural

Assistants

European Agricultural Assistants

Agricultural Officer Mbale, 1- 1-47—
25- 6-47.

Granted Scholarship at Imperial College
of Tropical Agriculture, Trinidad.

C. LABORATORIES DIVISION

Senior Entomologist	..	W. V. HARRIS	..	Kawanda	..	1- 1-47— 6- 6-47	Proceeded on vacation leave.
Entomologist	..	A. P. G. MICHELMORE	..	Kawanda	..	1- 1-47— 31-12-47	Seconded to Kenya
	..	P. R. STEPHENSON	..	—	..	—	On leave prior to transfer to Sudan.
	..	H. S. DARLING	..	Kawanda	..	1- 1-47— 13- 2-47	Transferred from Malaya.
Senior Chemist	..	G. GRIFFITH	..	Kawanda	..	23- 4-47— 31-12-47	On leave.
Senior Botanist	..	J. D. JAMESON	..	Kawanda	..	—	On leave prior to resignation.
Plant Physiologist	..	P. E. WEATHERLEY	..	—	..	—	On leave prior to retirement.
Senior Economic Botanist	..	A. S. THOMAS	..	—	..	—	Temporary local appointment.
Curator, Botanic Gardens	..	MRS. A. HAVES	..	Entebbe	..	1- 1-47— 31-12-47	

